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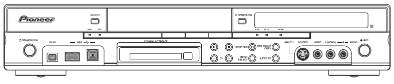
Service Manual


DVR-LX61D

ORDER NO.
RRV3761

HDD/DVD RECORDER

DVR-LX61D
DVR-560HX-S
DVR-560HX-K

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Region No.	**Serial No.** Please Confirm 3rd & 4th alphabetical letters.
DVR-LX61D	WVXK5	AC 220 V to 240 V	2	&&UK######$$
DVR-LX61D	WYXK5	AC 220 V to 240 V	2	&&UK######$$
DVR-560HX-S	WVXK5	AC 220 V to 240 V	2	&&UK######$$
DVR-560HX-S	WYXK5	AC 220 V to 240 V	2	&&UK######$$
DVR-560HX-K	WVXK5	AC 220 V to 240 V	2	&&UK######$$
DVR-560HX-K	WYXK5	AC 220 V to 240 V	2	&&UK######$$

For details, refer to "Important Check Points for good servicing".

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SAFETY INFORMATION

■ LABEL CHECK

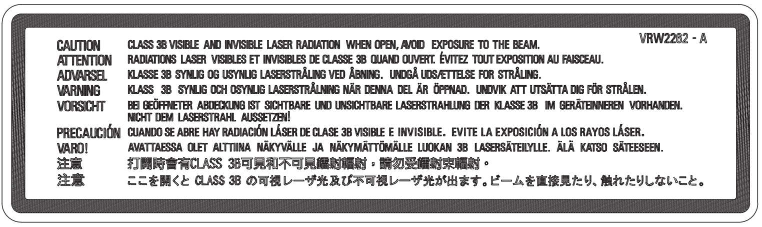
WARNING!

The laser component is capable of emitting radiation exceeding the limit for CLASS 1. A specially instructed person should do servicing operation of the apparatus.

Laser Pickup specifications and Laser characteristics

For CD
Wave length : 785 nm
Operating output :
Read mode : 1.07 mW (CW), Class1
Maximum output : Class1M

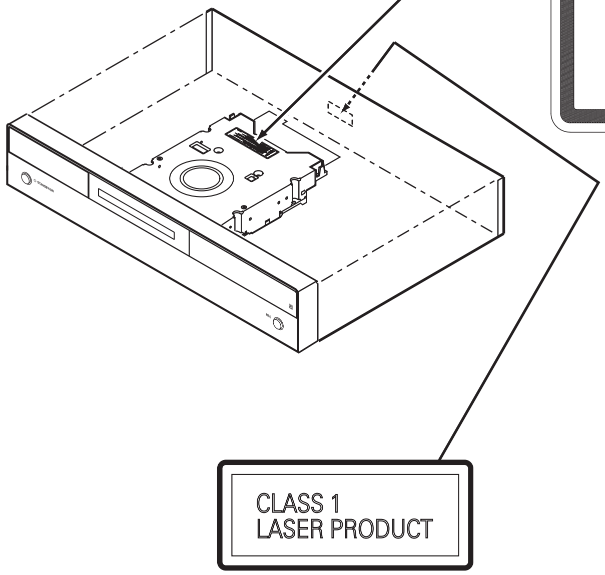
For DVD
Wave length : 660 nm
Operating output :
Read mode : 1.08 mW, Class1
Write mode : 21.89 mW (Pulse), Class1M
Maximum output : Class2M



VRW2262 - A

CAUTION	CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO THE BEAM.
ATTENTION	RADIATIONS LASER VISIBLES ET INVISIBLES DE CLASSE 3B QUAND OUVERT. ÉVITEZ TOUT EXPOSITION AU FAISCEAU.
ADVARSEL	KLASSE 3B SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARNING	KLASS 3B SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. UNDVIK ATT UTSÄTTA DIG FÖR STRÅLEN.
VORSICHT	BEI GEÖFFNETER ABDECKUNG IST SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG DER KLASSE 3B IM GERÄTEINNEREN VORHANDEN. NICHT DEM LASERSTRAHL AUSSETZEN!
PRECAUCIÓN	CUANDO SE ABRE HAY RADIACIÓN LÁSER DE CLASE 3B VISIBLE E INVISIBLE. EVITE LA EXPOSICIÓN A LOS RAYOS LÁSER.
VARO!	AVATTAESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LUOKAN 3B LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
注意	打開時會有CLASS 3B可見和不可見鐳射輻射，請勿受鐳射束輻射。
注意	ここを開くと CLASS 3B の可視レーザ光及び不可視レーザ光が出ます。ビームを直接見たり、触れたりしないこと。

VRW2262



Additional Laser Caution

1. The ON/OFF(ON:low level,OFF:high level) status of the CLAMP signals for detecting the loading state are detected by the drive CPUs, and the design prevents laser diode oscillation when the CLAMP signal turns OFF.
   In normal operation, if no disc is clamped, the laser diode oscillation is disabled.
   However, the interlock does not always operate in the "LD Degration Judgment of ATA/ATAPI DEBUG OSD" and "LD POWER ADJUSTMENT"*.

2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 3A laser beam.

* Refer to Pages 54 and 89.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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1. SERVICE PRECAUTIONS

- **When servicing this model, some service procedures may reset the customer settings to the factory default settings. Make sure to explain this to the customer.**

- **An HDD (Hard Disc Drive) is mounted in this product.**
  When an HDD becomes defective and inoperable, restoration of the user's data recorded on the HDD, or copying of the user's recorded data to other media (such as a new HDD) is totally impossible.
  Before servicing, OBTAIN THE USER'S PRIOR CONSENT to that effect.
  The user must be made aware that all recorded data are deleted if the HDD is intialized.

1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
  Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 ºC.
  Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 ºC in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:
- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

1.2 NOTES ON HANDLING THE HDD

[1] Cautions on Handling the HDD

- The HDD is very sensitive to shocks and vibrations. Care must be taken especially during operation (when the power is on).
- The HDD is very sensitive to electrostatic charges.
- Rapid change in temperature or humidity may cause deterioration of the HDD.

Note: After receiving damage caused by any above-mentioned factors, the HDD may operate normally for dozens or some hundreds of hours but then suddenly crash. If you are certain you have damaged a new repair part (HDD) while making repairs, do not use the part.

The HDD is about 10 times as sensitive to shock during operation than during nonoperation.

Reference: Main specifications on damage to the HDD

	During operation	During noperation
Shock G (acceleration)	<approx. 20 G	<approx. 200 G
Temperature change	< 20ºC/hour	
Moisture change	< 20%/hour	

Reference: Estimate value of falling distance vs. shock (G) when the HDD is dropped without protection

Falling distance \ Landing surface	Granite surface	Concrete floor	Synthetic-resin-coated table	Antistatic sponge
0.5 inch / 12.7 mm	387	217	200	26
1.0 inch / 25.4 mm	595	457	310	37
2.0 inch / 50.8 mm	1133	600	680	70
4.0 inch / 101.6 mm	1795	1040	1050	267

[2] Cautions on handling the product on which the HDD is mounted or the HDD as a repair part, and examples of dangerous handling

[Cautions on handling the product on which the HDD is mounted]

- While the unit is turned on, the HDD is always in operation. Be sure NOT to impart shock to the unit.

● Examples of dangerous handling: while the power is on

- Bumping on the bonnet
- Dropping an object, such as a small screwdriver or remote control unit, onto the bonnet, or bumping an object against the cabinet
- Moving the unit by dragging
- Stacking another product on the unit

Note: Be sure NOT to impart shock, such as bumping or hitting a screwdriver against the HDD, during diagnosis with the bonnet open.

● Examples of dangerous handling: while the power is off

- Imparting strong shock, although the HDD is more resistant to shock when the power is off
- Dropping the unit from a height of several centimeters, or after lifting one side of the unit up, then letting the unit drop.

- Do NOT move the unit immediately after the power is turned off. Wait at least 30 seconds after the indication on the FL display changed from POWER OFF to the clock indication before moving the unit. If the AC power cord is accidentally disconnected before turning the unit off, wait at least for one minute before moving it. In this case, damage to the HDD caused by sudden shutoff may be small, because the emergency relief mechanism is activated. However, if sudden shutoff occurrs during recording or playback, recorded data may be damaged. Be sure to check operations.

[Cautions on handling the HDD as a repair part]

1. Handle the HDD in a safe environment:
    - Handle the HDD over an antistatic pad that can also absorb shock.
    - Wear wrist bands to prevent electrostatic charges generated in your body from affecting the HDD.

2. The following must be observed when handling the HDD:
    - Handle one HDD at a time. Do NOT hold several HDDs at the same time.
    - Grip the HDD on both sides so that you do not touch its terminals or circuit boards.
    - Do NOT stack one HDD onto another HDD (even if the HDDs are protected in antistatic bags).
    - Do NOT bump the HDDs against one another.
    - Do NOT bump any tool, such as a screwdriver, or other hard object against the HDD.
    - When a repair part (HDD) is transported and there is a large temperature difference between outdoors and indoors, to the indoor, leave it in its package for about a half day to gradually cool or warm the HDD to room temperature before unpacking it.

[Notes on packing for shipment]

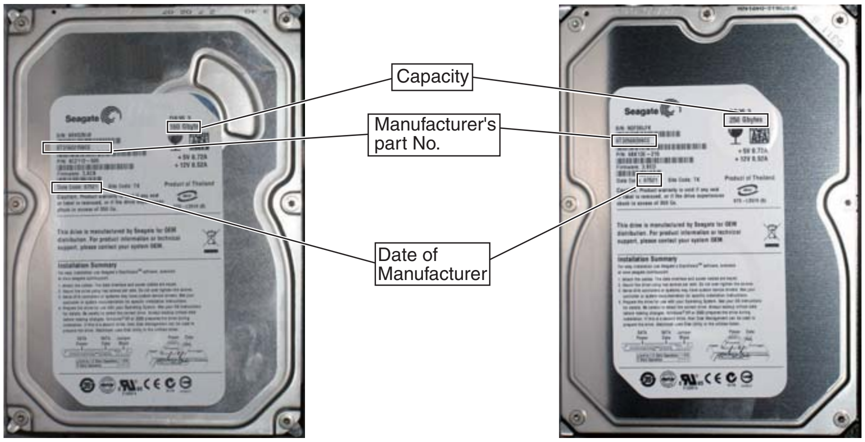
- When returning a defective HDD for analysis, handle with care as if it were a good product. Otherwise, the results of analysis may not be correct.
- When packing, use the antistatic bag and packing materials in which the repair part for service was delivered. Attach a copy of the slip for service or a memo stating symptoms in as much detail as possible.

[3] Outline and part No. of the HDDs

*Pioneer's part No. is not stamped.

Model Name	Capacity	SEAGATE	
		Pioneer's Part No. (for service)	Manufacture's Part No.
DVR-LX61D	250GB	VXF1131	ST3250820SCE
DVR-560HX-S DVR-560HX-K	160GB	VXF1152	ST3160215SCE

- When replacing the HDD, carefully check the capacity and manufacturer's part No. on the part label to avoid replacing with a similar but inappropriate product. You can also check the model No. of the mounted HDD on the Service mode screen.
- Do NOT use repair parts, such as commercially available HDDs, other than those designated above, as their functions, performance or reliability cannot be guaranteed.



Seagate(160GB)

Seagate(250GB)

1.3 NOTES ON REPLACEMENT OF THE SDRAM

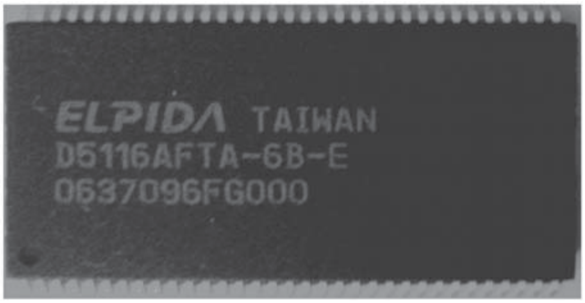
Note when replacing the SDRAM

When replacement of the SDRAM (IC1201 or IC1221) on the MAIN Assy is required, identify the manufacturer of the SDRAM. If the SDRAM that needs replacement was manufactured by ELPIDA, both IC1201 and IC1221 must be replaced at the same time.
SDRAMs for service are manufactured by SAMSUNG.

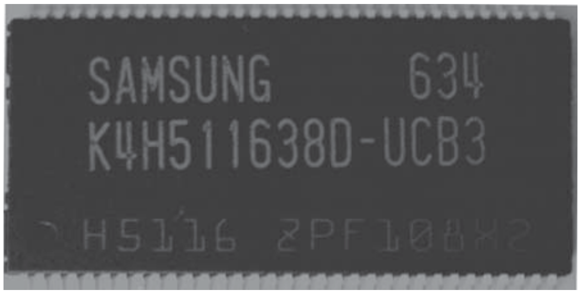
• How to identify the manufacturer

Confirm the name of the manufacturer stamped on the surface of the part.

By ELPIDA (replacement of both SDRAMs required)



By SAMSUNG (replacement of only the defective SDRAM possible)



• Measures to be taken

1. If the SDRAM that needs replacement was manufactured by ELPIDA:
   Replace both IC1201 and IC1221 at the same time.
2. If the SDRAM that needs replacement was manufactured by SAMSUNG:
   Replacement of only the defective SDRAM (IC1201 or IC1221) is possible.

• Possible malfunctions

If SDRAMs made by different manufacturers are mounted on the MAIN Assy, the following malfunctions may occur:

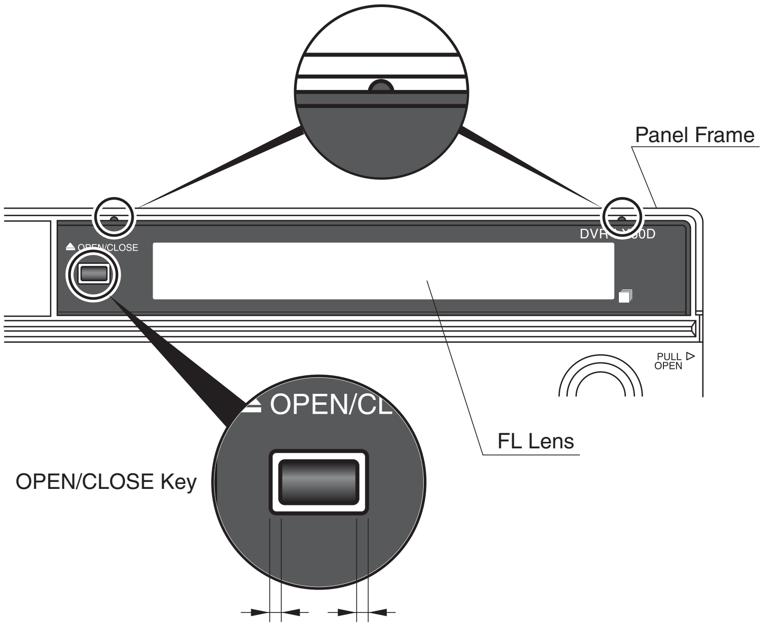
1. The power does not come on.
2. High-speed dubbing disabled
3. Other malfunctions related to the SDRAM

1.4 NOTES ON REPLACEMENT OF THE FL LENS (DVR-LX61D ONLY)

The Panel Frame, FL Lens, and FL Filter are attached to the chassis with two-sided (double-back) tape.
If one of these parts has to be replaced, replace all three parts at the same time.
To replace the FL Lens, follow the procedures described below:

Procedures for replacement of the FL Lens

1. Lightly attach the FL Lens so that the two projections on the upper side of the panel touch the Panel Frame and that the clearances between the OPEN/CLOSE key and the cutout for that key on the FL Lens will be the same on the left and right sides.
2. After confirming that the FL Lens is properly aligned, strongly push the black part of the FL Lens to firmly attach it. Be careful not to press the OPEN/CLOSE key while attaching the FL Lens.



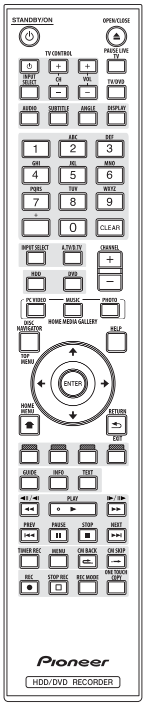
1.5 NOTE ON PC CARDS

If ejection of the PC card cannot be accomplished by your pressing the EJECT key, the PC card may have been inserted incorrectly. In such a case, remove the front panel, following the disassembly procedures, then manually remove the PC card.

2. SPECIFICATIONS

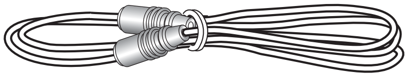
2.1 ACCESSORIES

- Remote control ×1
  (VXX3284 : DVR-LX61D)
  (VXX3285 : DVR-560HX-S)
  (VXX3292 : DVR-560HX-K)

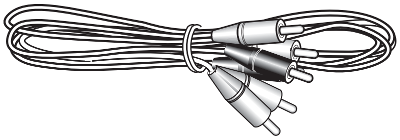

STANDBY/ON
OPEN/CLOSE
TV CONTROL
PAUSE LIVE TV
INPUT SELECT
CH
VOL
TV/DVD
AUDIO
SUBTITLE
ANGLE
DISPLAY
1
ABC 2
DEF 3
GHI 4
JKL 5
MNO 6
PQRS 7
TUV 8
WXYZ 9
+
0
CLEAR
INPUT SELECT
A.TV/D.TV
CHANNEL
HDD
DVD
PC VIDEO
MUSIC
PHOTO
HOME MEDIA GALLERY
DISC NAVIGATOR
HELP
TOP MENU
ENTER
HOME MENU
RETURN
EXIT
GUIDE
INFO
TEXT
PLAY
PREV
PAUSE
STOP
NEXT
TIMER REC
MENU
CM BACK
CM SKIP
REC
STOP REC
REC MODE
ONE TOUCH COPY
Pioneer
HDD/DVD RECORDER

- Operating Instructions (English)
  (VRB1487: DVR-LX61D/WVXK5)
  (VRB1486: DVR-560HX-S, 560HX-K/WVXK5)
- Operating Instructions (French)
  (VRC1458: DVR-LX61D/WYXK5)
  (VRC1457: DVR-560HX-S, 560HX-K/WYXK5)
- Operating Instructions (German)
  (VRC1463: DVR-LX61D/WYXK5)
  (VRC1462: DVR-560HX-S, 560HX-K/WYXK5)
- Operating Instructions (Italian)
  (VRC1467: DVR-LX61D/WYXK5)
  (VRC1466: DVR-560HX-S, 560HX-K/WYXK5)
- Operating Instructions (Dutch)
  (VRC1470: DVR-LX61D/WYXK5)
  (VRC1469: DVR-560HX-S, 560HX-K/WYXK5)
- Operating Instructions (Spanish)
  (VRC1474: DVR-LX61D/WYXK5)
  (VRC1473: DVR-560HX-S, 560HX-K/WYXK5)
- Warranty Card

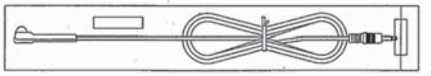
- RF antenna cable(PAL) ×2
  (VDE1095 ×1)
  (VDE1075 ×1)



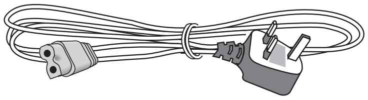
- Audio / Video cable(1.5m) ×1
  (red/white/yellow)
  (VDE1077)



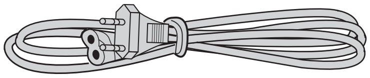
- G-Link™ Cable (3m) ×1
  (VDX1010)



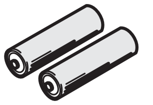
- Power cable ×1
  (ADG7077 : WVXK5 type)



(ADG1127 : WYXK5 type)



- Dry cell batteries ×2
  (AA/R6P)



2.2 SPECIFICATIONS

[1] For DVR-LX61D

General

Power requirements	220 V to 240 V, 50 Hz/60 Hz
Power consumption	58 W
Power consumption in standby mode	0.69 W (Front panel display: off)
Weight	4.7 kg
Dimensions	420 mm (W) x 77 mm (H) x 288 mm (D)
Operating temperature	+5 °C to +35 °C
Operating humidity	5 % to 85 % (no condensation)
TV system	NTSC (external input only)/PAL/SECAM

Readable discs

DVD-Video, DVD-RW, DVD-R, DVD+R, DVD+RW, DVD-RAM, Video CD, Super VCD, CD, CD-R/-RW (CD-DA, WMA, MP3, MPEG-4 AAC, JPEG, DivX)

Recording discs and formats

DVD-R/-RW: VR mode and Video mode
DVD+R/+RW: +VR mode
DVD-RAM: VR mode
DVD-R DL: VR mode and Video mode
DVD+R DL: +VR mode

Video recording format

Sampling frequency	13.5 MHz
Compression format	MPEG

Audio recording format

Sampling frequency	48 kHz
Compression format	Dolby Digital or Linear PCM (uncompressed)

Recording time
HDD (250 GB)

XP+	Approx. 36 h
Fine (XP)	Approx. 53 h
Standard Play (SP)	Approx. 106 h
Long Play (LP)	Approx. 212 h
Extended Play (EP)	Approx. 319 h
Super Long Play (SLP)	Approx. 425 h
Super Extended Play (SEP)	Approx. 532 h
Manual Mode (MN)	Approx. 36 h to 711 h

DVD-R/-RW, DVD+R/+RW, DVD-RAM

Fine (XP)	Approx. 1 h
Standard Play (SP)	Approx. 2 h
Long Play (LP)	Approx. 4 h
Extended Play (EP)	Approx. 6 h
Super Long Play (SLP)	Approx. 8 h
Super Extended Play (SEP)	Approx. 10 h *(DVD-R/-RW, DVD-RAM only)*
Manual Mode (MN)	
DVD-R/-RW/-RAM	Approx. 1 h to 13 h
DVD+R/+RW	Approx. 1 h to 8 h

DVD-R DL/DVD+R DL

Fine (XP)	Approx. 1 h 51 m
Standard Play (SP)	Approx. 3 h 35 m
Long Play (LP)	Approx. 7 h 11 m
Extended Play (EP)	Approx. 10 h 46 m
Super Long Play (SLP)	Approx. 14 h 21 m (DVD-R DL) Approx. 14 h 4 m (DVD+R DL)
Super Extended Play (SEP)	Approx. 17 h 57 m *(DVD-R DL only)*
Manual Mode (MN)	
DVD-R DL	Approx. 1 h 51 m to 24 h
DVD+R DL	Approx. 1 h 51 m to 14 h 4 m

Timer

Programmes	1 month/32 programmes
Clock	Quartz lock (24-hour digital display)

Tuner (analog)

Receivable channels

	SECAM B/G PAL B/G		PAL I	
	Frequency	Channel	Frequency	Channel
VHF (low)	47 MHz to 89 MHz	E2 to E4 X to Z	44 MHz to 89 MHz	A to C X to Z
VHF (high)	104 MHz to 300 MHz	E5 to E12 S1 to S20 M1 to M10 U1 to U10	104 MHz to 300 MHz	D to J 11, 13 S1 to S20
Hyper	302 MHz to 470 MHz	S21 to S41	302 MHz to 470 MHz	S21 to S41
UHF	470 MHz to 862 MHz	E21 to E69	470 MHz to 862 MHz	E21 to E69

	SECAM L		SECAM D/K PAL D/K	
	Frequency	Channel	Frequency	Channel
VHF (low)	49 MHz to 65 MHz	FB, FC1, FC	49 MHz to 94 MHz	R1 to R5
VHF (high)	104 MHz to 300 MHz	F1 to F6 B to Q	104 MHz to 300 MHz	R6 to R12 S1 to S20
Hyper	300 MHz to 470 MHz	S21 to S41	302 MHz to 470 MHz	S21 to S41
UHF	470 MHz to 862 MHz	21 to 69	470 MHz to 862 MHz	E21 to E69

STEREO
- B/G - A2
- I - NICAM
- L - NICAM
- B/G - NICAM
- D/K - NICAM

Tuner (digital)

Receiving system	DVB-T (2 K/8 K COFDM)
Tuner VHF/UHF	VHF band III (174 MHz to 230 MHz) UHF band IV, V (470 MHz to 862 MHz)
Auto Channel Preset	999 ch, Auto Preset, Auto Label, Auto Sort
Audio	Stereo MPEG layer I/II
Audio Decoder	Sampling frequencies: 32 kHz, 44.1 kHz, 48 kHz

This product's digital tuner has been confirmed for use in the following countries: Belgium, France, Germany, Italy, Spain, Denmark, Finland, Netherlands, Sweden, Switzerland, UK, Austria, Czech Republic.

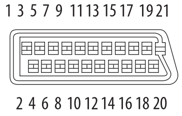
Input/Output

Antenna	
	75 Ω IEC 169-2 connector for VHF/UHF in/out (analog)
	75 Ω IEC 169-2 connector for VHF/UHF in/out (digital)
Video input	AV2 (Input 1), Input 2 (front), Input 3 (rear)
Input level	1 Vp-p (75 Ω)
Jacks	AV connector (Input 1), RCA jacks (Input 2, Input 3)
Video output	AV1, Output
Output level	1 Vp-p (75 Ω)
Jacks	AV connector (AV1), RCA jack (Output)
S-Video input	AV2 (Input 1), Input 2 (front), Input 3 (rear)
Y (luminance) - Input level	1 Vp-p (75 Ω)
C (colour) - Input level	300 mVp-p (75 Ω)
Jacks	AV connector (Input 1), 4-pin mini DIN (Input 2, Input 3)
S-Video output	AV1, Output
Y (luminance) - Output level	1 Vp-p (75 Ω)
C (colour) - Output level	300 mVp-p (75 Ω)
Jacks	AV connector (AV1), 4-pin mini DIN (Output)
Component video output	
Output level	Y: 1.0 Vp-p (75 Ω) P_B, P_R: 0.7 Vp-p (75 Ω)
Jacks	RCA jacks
RGB input	AV2 (Input 1)
Input level	0.7 Vp-p (75 Ω)
Jacks	AV connector (Input 1)
RGB output	AV1
Output level	0.7 Vp-p (75 Ω)
Jacks	AV connector (AV1)
Audio input	AV2 (Input 1), Input 2 (front), Input 3 (rear) L/R
During audio input	2 V rms (Input impedance: more than 22 kΩ)
Jacks	AV connector (Input 1), RCA jacks (Input 2, Input 3)
Audio output	AV1, Output L/R
During audio output	2 V rms (Output impedance: less than 1.5 kΩ)
Jacks	AV connector (AV1), RCA jacks (Output)
Control input	Mini jack
Digital audio output	Coaxial
G-LINK™	Mini jack
Common Interface	CA module
DV input	4-pin (front) (i.LINK/IEEE 1394 standard)
USB	Type A (front), Type B (front)
HDMI output	19-pin
LAN	Ethernet jack (10BASE-T/100BASE-TX)

AV Connectors (21-pin connector assignment)

AV connector input/output . . . . 21-pin connector

This connector provides the video and audio signals for connection to a compatible colour TV or monitor.



PIN no.	AV1 (RGB)-TV / AV2 (INPUT 1/DECODER)
1	Audio 2/R out / Audio 2/R out
2	– / Audio 2/R in
11	G out / G in
3	Audio 1/L out / Audio 1/L out
6	– / Audio 1/L in
15	R or C out / R or C in
4	GND
17	GND
7	B out / B in
19	Video out or Y out / Video out
20	– / Video in or Y in
8	Status
21	GND

Supplied accessories

Remote control	1
Dry cell batteries (AA/R6P)	2
Audio/Video cable (red/white/yellow)	1
G-LINK™ cable	1
RF antenna cable	2
Power cable	1
Operating Instructions	
Warranty card	1

Note: The specifications and design of this product are subject to change without notice, due to improvement.

[2] For DVR-560HX-S,-K

General

Power requirements . . . . . 220 V to 240 V, 50 Hz/60 Hz
Power consumption . . . . .51 W
Power consumption in standby mode. . . . . 0.69 W
(Front panel display: off)
Weight . . . . .4.5 kg
Dimensions
. . . . .420 mm (W) x 75 mm (H) x 288 mm (D)

Operating temperature . . . . +5 °C to +35 °C
Operating humidity . . . 5 % to 85 % (no condensation)
TV system . . . NTSC (external input only)/PAL/SECAM

Readable discs
DVD-Video, DVD-RW, DVD-R, DVD+R, DVD+RW, DVD-RAM, Video CD, Super VCD, CD, CD-R/-RW (CD-DA, WMA, MP3, JPEG, DivX)

Recording discs and formats
DVD-R/-RW: VR mode and Video mode
DVD+R/+RW: +VR mode
DVD-RAM: VR mode
DVD-R DL: VR mode and Video mode
DVD+R DL: +VR mode

Video recording format
Sampling frequency . . . . 13.5 MHz
Compression format . . . . .MPEG

Audio recording format
Sampling frequency . . . . 48 kHz
Compression format . . . . Dolby Digital or Linear PCM
(uncompressed)

Recording time
HDD (160 GB)
XP+ . . . . Approx. 23 h
Fine (XP). . . . . Approx. 34 h
Standard Play (SP) . . . . Approx. 68 h
Long Play (LP) . . . . Approx. 136 h
Extended Play (EP) . . . . Approx. 204 h
Super Long Play (SLP) . . . . Approx. 272 h
Super Extended Play (SEP). . . . . Approx. 340 h
Manual Mode (MN). . . . . Approx. 23 h to 455 h

DVD-R/-RW, DVD+R/+RW, DVD-RAM
Fine (XP). . . . . Approx. 1 h
Standard Play (SP) . . . . Approx. 2 h
Long Play (LP) . . . . Approx. 4 h
Extended Play (EP) . . . . Approx. 6 h
Super Long Play (SLP) . . . . Approx. 8 h
Super Extended Play (SEP). . . . . Approx. 10 h
(DVD-R/-RW, DVD-RAM only)
Manual Mode (MN)
DVD-R/-RW/-RAM . . . . .Approx. 1 h to 13 h
DVD+R/+RW . . . . .Approx. 1 h to 8 h

DVD-R DL/DVD+R DL
Fine (XP) . . . . Approx. 1 h 51 m
Standard Play (SP). . . . . Approx. 3 h 35 m
Long Play (LP) . . . . Approx. 7 h 11 m
Extended Play (EP). . . . . Approx. 10 h 46 m
Super Long Play (SLP)
. . . . .Approx. 14 h 21 m (DVD-R DL)
. . . . .Approx. 14 h 4 m (DVD+R DL)
Super Extended Play (SEP) . . . . Approx. 17 h 57 m
(DVD-R DL only)
Manual Mode (MN)
DVD-R DL . . . . Approx. 1 h 51 m to 24 h
DVD+R DL . . . . Approx. 1 h 51 m to 14 h 4 m

Timer

Programmes. . . . . 1 month/32 programmes
Clock . . . . Quartz lock (24-hour digital display)

Tuner (analog)

Receivable channels

	SECAM B/G PAL B/G		PAL I	
	Frequency	**Channel**	**Frequency**	**Channel**
VHF (low)	47 MHz to 89 MHz	E2 to E4 X to Z	44 MHz to 89 MHz	A to C X to Z
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Hyper	302 MHz to 470 MHz	S21 to S41	302 MHz to 470 MHz	S21 to S41
UHF	470 MHz to 862 MHz	E21 to E69	470 MHz to 862 MHz	E21 to E69

	SECAM L		SECAM D/K PAL D/K	
	Frequency	**Channel**	**Frequency**	**Channel**
VHF (low)	49 MHz to 65 MHz	FB, FC1, FC	49 MHz to 94 MHz	R1 to R5
VHF (high)	104 MHz to 300 MHz	F1 to F6 B to Q	104 MHz to 300 MHz	R6 to R12 S1 to S20
Hyper	300 MHz to 470 MHz	S21 to S41	302 MHz to 470 MHz	S21 to S41
UHF	470 MHz to 862 MHz	21 to 69	470 MHz to 862 MHz	E21 to E69

STEREO
B/G - A2
I - NICAM
L - NICAM
B/G - NICAM
D/K - NICAM

Tuner (digital)

Receiving system . . . . DVB-T (2 K/8 K COFDM)
Tuner VHF/UHF
. . . . VHF band III (174 MHz to 230 MHz)
. . . . UHF band IV, V (470 MHz to 862 MHz)
Auto Channel Preset . . . . 999 ch, Auto Preset,
Auto Label, Auto Sort
Audio. . . . . Stereo MPEG layer I/II
Audio Decoder
. . . . . Sampling frequencies: 32 kHz, 44.1 kHz, 48 kHz

This product's digital tuner has been confirmed for use in the following countries: Belgium, France, Germany, Italy, Spain, Denmark, Finland, Netherlands, Sweden, Switzerland, UK, Austria, Czech Republic.

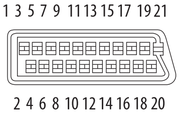
Input/Output

Antenna	
	75 Ω IEC 169-2 connector for VHF/UHF in/out (analog)
	75 Ω IEC 169-2 connector for VHF/UHF in/out (digital)
Video input	AV2 (Input 1), Input 2 (front), Input 3 (rear)
Input level	1 Vp-p (75 Ω)
Jacks	AV connector (Input 1), RCA jacks (Input 2, Input 3)
Video output	AV1, Output
Output level	1 Vp-p (75 Ω)
Jacks	AV connector (AV1), RCA jack (Output)
S-Video input	AV2 (Input 1), Input 2 (front), Input 3 (rear)
Y (luminance) - Input level	1 Vp-p (75 Ω)
C (colour) - Input level	300 mVp-p (75 Ω)
Jacks	AV connector (Input 1), 4-pin mini DIN (Input 2, Input 3)
S-Video output	AV1, Output
Y (luminance) - Output level	1 Vp-p (75 Ω)
C (colour) - Output level	300 mVp-p (75 Ω)
Jacks	AV connector (AV1), 4-pin mini DIN (Output)
Component video output	
Output level	Y: 1.0 Vp-p (75 Ω) P_B, P_R: 0.7 Vp-p (75 Ω)
Jacks	RCA jacks
RGB input	AV2 (Input 1)
Input level	0.7 Vp-p (75 Ω)
Jacks	AV connector (Input 1)
RGB output	AV1
Output level	0.7 Vp-p (75 Ω)
Jacks	AV connector (AV1)
Audio input	AV2 (Input 1), Input 2 (front), Input 3 (rear) L/R
During audio input	2 V rms (Input impedance: more than 22 kΩ)
Jacks	AV connector (Input 1), RCA jacks (Input 2, Input 3)
Audio output	AV1, Output L/R
During audio output	2 V rms (Output impedance: less than 1.5 kΩ)
Jacks	AV connector (AV1), RCA jacks (Output)
Control input	Mini jack
Digital audio output	Coaxial
G-LINK™	Mini jack
Common Interface	CA module
DV input	4-pin (front) (i.LINK/IEEE 1394 standard)
USB	Type A (front), Type B (front)
HDMI output	19-pin

AV Connectors (21-pin connector assignment)

AV connector input/output	21-pin connector

This connector provides the video and audio signals for connection to a compatible colour TV or monitor.



PIN no.	AV1 (RGB)-TV / AV2 (INPUT 1/DECODER)
1	Audio 2/R out / Audio 2/R out
2	– / Audio 2/R in
11	G out / G in
3	Audio 1/L out / Audio 1/L out
6	– / Audio 1/L in
15	R or C out / R or C in
4	GND
17	GND
7	B out / B in
19	Video out or Y out / Video out
20	– / Video in or Y in
8	Status
21	GND

Supplied accessories

Remote control	1
Dry cell batteries (AA/R6P)	2
Audio/Video cable (red/white/yellow)	1
G-LINK™ cable	1
RF antenna cable	2
Power cable	1
Operating Instructions	
Warranty card	1

Note: The specifications and design of this product are subject to change without notice, due to improvement.

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The contents of the Gracenote data in both the recorder and the dedicated server are not 100% guaranteed.

The supply of the Gracenote data in the dedicated server may be stopped without prior notice for the reason of maintenance, etc.

The Gracenote data communication service of the dedicated server may be stopped without the consent of the users in case the required content cannot be collected or for other reason that hinders provision of the service.

2.3 DISC/CONTENT FORMAT

HDD/DVD Recording and playback compatibility

This recorder can play and record all widely-used DVD disc types, and additionally provides HDD functionality. The table below shows some specific compatibility differences between the different disc types.

	HDD	DVD-R		DVD-RW		DVD+R	DVD +RW	DVD -RAM
Marks used in this manual	HDD	DVD (VR) *1	DVD (Video)	DVD (VR) *1	DVD (Video) *2	DVD+R	DVD+RW	DVD-RAM *13, 16
Logos	HDD HARD DISK DRIVE	DVD R		DVD RW	DVD RW RW 2	RW DVD+R	RW DVD+ReWritable RW High Speed DVD+ReWritable	DVD RAM
Re-recordable/ Erasable	●	*3	*3	●	●	*3	*14	●
Editing of recorded programmes	●	●	*4	●	*4	*4	*4	●
Recording of Copy-once protected material	●	*12		*12				*12
Playback in other players/recorders	*n/a*	*5	*6	*7	*6	*6, 15	*8	*9
Chase play	●							
16:9 and 4:3 programme recording	●	●		●				●
Bilingual broadcast recording of both audio channels	*10, 11	*11		*11				*11

Notes to table

**1 Must be initialized for VR mode recording.*
**2 Must be initialized for Video mode recording.*
**3 Erasable, but free space does not increase.*
**4 Cannot erase sections, edit chapters or use playlist editing.*
**5 Must be compatible with DVD-R (VR) playback.*
**6 Finalize using this recorder (may not playback in some units).*
**7 Must be compatible with DVD-RW (VR) playback.*
**8 Must be compatible with DVD+RW playback.*
**9 Must be compatible with DVD-RAM playback.*
**10 Only when HDD Recording Format is set to Video Mode Off.*
**11 Only when the recording mode is not set to LPCM.*
**12 CPRM-compatible discs only.*
**13 Take the disc out of the cartridge before use. Only Panasonic and Maxell discs have been tested to work reliably with this recorder. Discs from other makers may become unusable when recorded or edited.*
**14 Erasing a title does not increase the available recording time, nor increase the number of recordable titles left.*
**15 Must be compatible with DVD+R playback.*
**16 Depending on the disc, it may have to be initialized before it can be recorded. In this case, initialization may take over one hour.*

DVD is a trademark of DVD Format/Logo Licensing Corporation.

Using DVD-R DL/DVD+R DL discs

DVD-R DL (Dual-Layer) and DVD+R DL (Double-Layer) discs contain two recordable layers on a single side, giving about 1.8 times the recording capacity of a conventional single-layer disc. This unit can record to both DVD-R DL and DVD+R DL discs.

- If you intend to play DVD-R DL (Video mode) or DVD+R DL discs recorded on this unit on other DVD recorders/players, you must finalize them. (Note that some DVD recorders/players may not play even finalized DL discs.)
- This logo indicates that the disc is a DVD-R DL or DVD+R DL disc:

R DL
4X/2X

DVD+R DL

Correct operation has been confirmed for DL discs:

- DVD-R DL ver. 3.0/2x to 4x
  Mitsubishi Kagaku Media (Verbatim)
- DVD-R DL ver. 3.0/2x to 8x
  Mitsubishi Kagaku Media (Verbatim)
  That's
  JVC
- DVD+R DL 2.4x
  Mitsubishi Kagaku Media (Verbatim)
  RICOH
- DVD+R DL 2.4x to 8x
  Mitsubishi Kagaku Media (Verbatim)
  RICOH

About DualDisc playback

A DualDisc is a new two -sided disc, one side of which contains DVD content – video, audio, etc. – while the other side contains non-DVD content such as digital audio material.

The non-DVD, audio side of the disc is not compliant with the CD audio specification and therefore may not play.

It is possible that when loading or ejecting a DualDisc, the opposite side to that being played will be scratched. Scratched discs may not be playable.

The DVD side of a DualDisc plays in this product. DVD-Audio content will not play.

For more detailed information on the DualDisc specification, please refer to the disc manufacturer or disc retailer.

Other disc compatibility

In addition to DVD, this recorder is compatible with a wide range of disc types (media) and formats. Playable discs will generally feature one of the logos on the disc and/or disc packaging shown below. Note however that some disc types, such as recordable CD (and DVD), may be in an unplayable format — see below for further compatibility information.

Audio CD **CD-R** **CD-RW**

Video CD **Super Video CD (Super VCD)**

CD-R/-RW compatibility

This recorder cannot record CD-R or CD-RW discs.

- Readable formats: CD audio, Video CD/ Super VCD, ISO 9660 CD-ROM* containing MP3, WMA, MPEG-4 AAC, JPEG or DivX files
  ** ISO 9660 Level 1 or 2 compliant. CD physical format: Mode1, Mode2 XA Form1. Romeo and Joliet file systems are both compatible with this recorder.*
- Multi-session playback: Yes (except CD audio and Video CD/Super VCD)
- Unfinalized disc playback: CD audio only

Compressed audio compatibility

- Compatible media: DVD-ROM, DVD-R/-RW, DVD+R/+RW, DVD-RAM, CD-ROM, CD-R, CD-RW, USB
- Compatible formats: MPEG-1 Audio Layer 3 (MP3), Windows Media Audio (WMA), MPEG-4 AAC

- Sampling rates (MP3/WMA): 32 kHz, 44.1 kHz or 48 kHz
- Sampling rates (MPEG-4 AAC): 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz or 48 kHz
- Bit-rates: Any (128 kbps or higher recommended)
- Variable bit-rate (VBR) WMA/MP3/ MPEG-4 AAC playback: Yes[1]
- WMA encoder compatibility: Windows Media Codec 8 *(files encoded using Windows Media Codec 9 may be playable but some parts of the specification are not supported; specifically, Pro, Lossless, Voice and VBR)*
- DRM (Digital Rights Management)[2] file playback: No
- File extensions: .mp3, .wma, .m4a (these must be used for the recorder to recognize MP3, WMA and MPEG-4 AAC files – do not use for other file types)
- File structure: The recorder can load up to 99 folders/999 files at one time *(if there are more files/folders that this on the disc then more can be reloaded)*

About MPEG-4 AAC

Advanced Audio Coding (AAC) is at the core of the MPEG-4 AAC standard, which incorporates MPEG-2 AAC, forming the basis of the MPEG-4 audio compression technology. The file format and extension used depend on the application used to encode the AAC file. This unit plays back AAC files encoded by iTunes® bearing the extension '**.m4a**'. DRM-protected files will not play, and files encoded with some versions of iTunes® may not play, or filenames may display incorrectly.

Apple and iTunes are trademarks of Apple Inc., registered in the U.S. and other countries.

WMA (Windows Media™ Audio) content

This recorder can playback Windows Media Audio content.

WMA is an acronym for Windows Media Audio and refers to an audio compression technology developed by Microsoft Corporation.

Windows Media is a trademark of Microsoft Corporation.

This product includes technology owned by Microsoft Corporation and cannot be used or distributed without a license from Microsoft Licensing, Inc.

DivX video compatibility

DivX is a compressed digital video format created by the DivX® video codec from DivX, Inc. Keeping the same terminology as DVD-Video, individual DivX video files are called "Titles". When naming files/titles on a disc prior to burning, keep in mind that by default they will be played in alphabetical order.

- Official DivX® Certified product.
- Plays all versions of DivX® video (including DivX® 6) with standard playback of DivX® media files.
- File extensions: .avi and .divx (these must be used for the recorder to recognize DivX video files). *Note that all files with the .avi extension are recognized as MPEG4, but not all of these are necessarily DivX video files and therefore may not be playable on this recorder.*
- File structure: Up to 99 folders or 999 files.

Note

[1] The elapsed playing time may not be displayed properly.

[2] DRM (digital rights management) copy protection is a technology designed to prevent unauthorized copying by restricting playback, etc. of compressed audio files on devices other than the PC (or other recording equipment) used to record it. For detailed information, please see the instruction manuals or help files that came with your PC and/or software.

DivX, DivX Certified, and associated logos are trademarks of DivX, Inc. and are used under license.

DivX$^{®}$ VOD content

In order to play DivX VOD (video on demand) content on this recorder, you first need to register the recorder with your DivX VOD content provider. You do this by generating a DivX VOD registration code, which you submit to your provider.

Some DivX VOD content may only be playable a fixed number of times. When you load a disc containing this type of DivX VOD content, the remaining number of plays is shown on-screen and you then have the option of playing the disc (thereby using up one of the remaining plays), or stopping. If you load a disc that contains expired DivX VOD content (for example, content that has zero remaining plays), the message **Rental Expired** is displayed.

If your DivX VOD content allows an unlimited number of plays, then you may load the disc into your recorder and play the content as often as you like, and no message will be displayed.

Important

- DivX VOD content is protected by a DRM system. This restricts playback of content to specific, registered devices.
- If you load a disc that contains DivX VOD content not authorized for this recorder, the message **Authorization Error** is displayed and the content will not play.
- Resetting the recorder will not cause you to lose your registration code.

JPEG file compatibility

- Compatible formats: Baseline JPEG and EXIF 2.2* still image files
  **File format used by digital still cameras*
- Sampling ratio: 4:4:4, 4:2:2, 4:2:0
- Horizontal resolution: 160 to 5120 pixels
- Vertical resolution: 120 to 3840 pixels
- Progressive JPEG compatible: No
- File extensions: .jpg, .jpeg, .jpe, .jif, .jfif (must be used for the recorder to recognize JPEG files – do not use for other file types)
- File structure: The recorder can load up to 99 folders/999 files at one time *(if there are more files/folders that this on the disc then more can be reloaded)*

PC-created disc compatibility

Discs recorded using a personal computer may not be playable in this unit due to the setting of the application software used to create the disc. In these particular instances, check with the software publisher for more detailed information.

Discs recorded in packet write mode (UDF format) are not compatible with this recorder.

Check the DVD-R/-RW or CD-R/-RW software disc boxes for additional compatibility information.

Dolby Digital

Manufactured under license from Dolby Laboratories. “Dolby” and the double-D symbol are trademarks of Dolby Laboratories.

DTS

Manufactured under license under U.S. Patent #: 5,451,942 & other U.S. and worldwide patents issued & pending. DTS and DTS Digital Out are registered trademarks and the DTS logos and Symbol are trademarks of DTS, Inc. © 1996-2007 DTS, Inc. All Rights Reserved.

DVB

The Digital Video Broadcasting Project, or DVB for short, is a set of open standards for digital broadcasting, covering terrestrial, cable and satellite broadcasts.

Based around the MPEG-2 coding system, these open standards ensure that compliant systems are able to work together, independent of manufacturer.

DVB is extremely flexible, being able to deliver virtually any kind of digital content to the home, including High Definition and Standard Definition TV, broadband multimedia content and interactive services.

DVB is a registered trademark of the DVB Project.

About the internal hard disk drive

The internal hard disk drive (HDD) is a fragile piece of equipment. When used without the proper care or in the wrong conditions, it is possible that recorded contents may be damaged or lost entirely, in some cases making even normal playback or recording impossible. Please understand that in the event of repair or replacement of the HDD or related components, all your HDD recordings will be lost.

Please use the recorder following the guidelines below to protect against possible HDD failure.

The HDD should not be regarded as a place to store recordings permanently. We recommend that you back up your important recordings onto DVD discs in order to protect against accidental loss.

Pioneer cannot under any circumstances accept responsibility for any direct or indirect loss arising from any inconvenience or loss of recorded material resulting from HDD failure.

- Do not move the recorder while it is on (this includes during EPG download when the front panel display shows **EPG**).
- Install and use the recorder on a stable, level surface.
- Do not block the rear vent/cooling fan.
- Do not use the recorder in excessively hot or humid places, or in places that may be subject to sudden changes in temperature. Sudden changes in temperature can cause condensation to form inside the recorder. This can be a cause of HDD failure.
- While the recorder is switched on (including during EPG download when the front panel display shows **EPG**), do not unplug from the wall socket or switch the electricity off from the breaker switch.
- Do not move the recorder immediately after switching it off. If you need to move the recorder, please follow the steps below:

  1 After the message **POWER OFF** is shown on the front panel display, wait at least two minutes.

  2 Unplug from the wall socket.

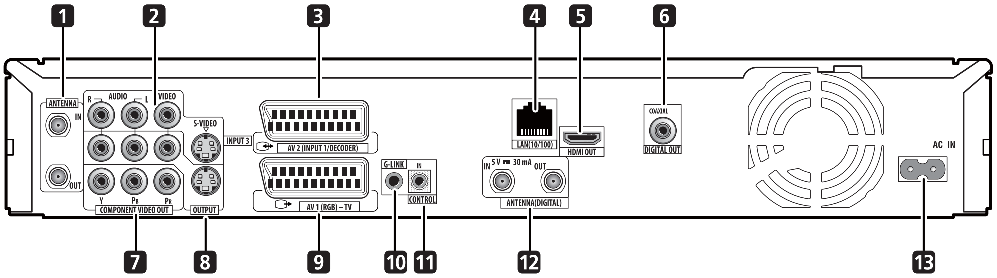
  3 Move the recorder.
- If there's a power failure while the recorder is on there is a chance that some data on the HDD will be lost.
- The HDD is very delicate. If used over time in an improper manner or in an unsuitable environment, it is possible that the HDD will fail. Signs of problems include playback unexpectedly freezing and noticeable block noise (mosaic) in the picture. However, sometimes there will be no warning signs of HDD failure. If the HDD fails, no playback of recorded material will be possible. In this case it will be necessary to replace the HDD unit.

Optimizing HDD performance

As you record and edit material on the HDD, the data on the disk becomes fragmented, eventually affecting the recorder's performance. Before this happens, the recorder will warn you that it is time to optimize the HDD.

2.4 PANEL FACILITIES

[1] Rear Panel


1
2
3
4
5
6
ANTENNA
IN
OUT
R
AUDIO
L
VIDEO
S-VIDEO
INPUT 3
AV 2 (INPUT 1/DECODER)
Y
PB
PR
COMPONENT VIDEO OUT
OUTPUT
AV 1 (RGB) – TV
G-LINK
IN
CONTROL
LAN(10/100)
HDMI OUT
IN
5 V 30 mA
OUT
ANTENNA(DIGITAL)
COAXIAL
DIGITAL OUT
AC IN
7
8
9
10
11
12
13

1 ANTENNA IN (RF IN)/OUT
Connect your TV antenna to the **ANTENNA IN (RF IN)** jack. The signal is passed through to the **ANTENNA OUT** jack for connection to your TV.

2 INPUT 3
Stereo analog audio, video and S-Video inputs for connection to a VCR or other source component.

3 AV2 (INPUT 1/DECODER) AV connector
Audio/video input/output SCART-type AV connector for connecting to a VCR, or other equipment with a SCART connector. The input accepts video, S-Video and RGB.

4 LAN (10/100) (DVR-LX61D Only)
Ethernet port for 10BASE-T (10 Mbps)/ 100BASE-TX (100 Mbps) network connection.

5 HDMI OUT
HDMI output for high quality digital audio and video.

6 DIGITAL AUDIO OUT (COAXIAL)
Coaxial digital audio jack for connecting to an AV amplifier/receiver, Dolby Digital/DTS/ MPEG decoder or other equipment with a digital input.

7 COMPONENT VIDEO OUT
A high-quality video output for connecting to a TV or monitor with a component video input.

8 OUTPUT
Stereo analog audio, video and S-Video outputs for connection to a TV or AV amplifier/receiver.

9 AV1 (RGB)-TV AV connector
Audio/video output SCART-type AV connector for connecting to a TV or other equipment with a SCART connector. The video output is switchable between video, S-Video and RGB.

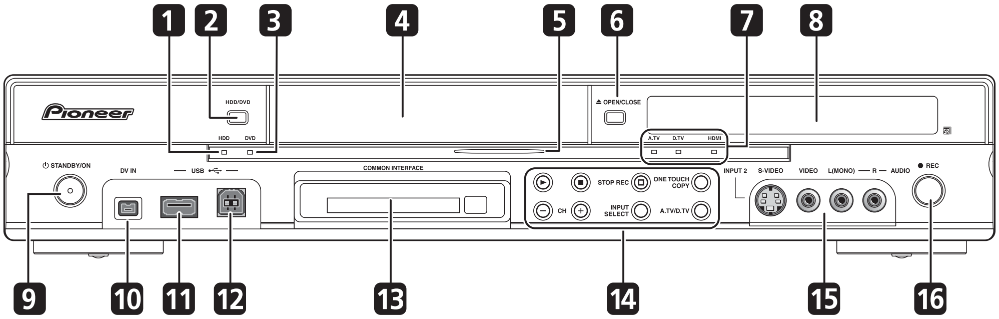
10 G-LINK™
Use to connect the supplied G-LINK™ cable to enable GUIDE Plus+® to control an external satellite receiver, etc.

11 CONTROL IN
Use to control this recorder from the remote sensor of another Pioneer component with a **CONTROL OUT** terminal and bearing the Pioneer SR mark. Connect the **CONTROL OUT** of the other component to the **CONTROL IN** of this recorder using a mini-plug cord.

12 ANTENNA (DIGITAL) IN/OUT
Connect your DTV antenna to the **ANTENNA (DIGITAL) IN** jack. The signal is passed through to the **ANTENNA (DIGITAL) OUT** jack for connection to your TV.

13 AC IN – Power inlet
Connect to a power outlet using the supplied power cable after making all other connections.

[2] Front Panel (for DVR-LX61D)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Pioneer
HDD/DVD
HDD
DVD
⏏ OPEN/CLOSE
A.TV
D.TV
HDMI
⏻ STANDBY/ON
DV IN
USB
COMMON INTERFACE
STOP REC
ONE TOUCH COPY
CH
INPUT SELECT
A.TV/D.TV
INPUT 2
S-VIDEO
VIDEO
L(MONO)
R
AUDIO
● REC
9
10
11
12
13
14
15
16

1 HDD indicator
Lights when the hard disk (HDD) is selected.

2 HDD/DVD
Press to switch between HDD and DVD for recording and playback.

3 DVD indicator
Lights when the DVD drive is selected.

4 Disc tray

5 Blue Illumination
Lights when the recorder's power is turned on.

6 ⏏ OPEN/CLOSE
Press to open/close the disc tray.

7 A.TV indicator
Lights when analog TV is selected.

D.TV indicator
Lights when digital TV is selected.

HDMI indicator
Lights when this recorder is connected to HDMI (HDCP) compatible component.

8 Front panel display and IR remote sensor

9 ⏻ STANDBY/ON
Press to switch the recorder on/into standby. When the recorder's power is on, the indicator at the center of the button lights blue.

10 DV IN
A DV input i.LINK connector, suitable for connecting a DV camcorder.

11 USB port (Type A)
USB port for connecting an HDD camcorder, digital camera, keyboard or other USB device.

12 USB port (Type B)
USB port for connecting a PictBridge-compatible printer or PC.

13 COMMON INTERFACE slot
Slot for CA module and smart card used to decode scrambled D.TV channels.

14 ►

Press to start or restart playback.

■

Press to stop playback.

☐ STOP REC
Press to stop recording.

ONE TOUCH COPY

Press to start One Touch Copy of the currently playing title to DVD or the HDD.

CH +/–

Use to change channels, skip chapters/tracks, etc.

INPUT SELECT
Press to change the input used for recording.

A.TV/D.TV
Switches between analog TV antenna input and digital TV antenna input. The **A.TV** and **D.TV** indicators show which is selected.

15 INPUT 2
Audio/video input (stereo analog audio; composite and S-Video), especially suitable for camcorders, game consoles, portable audio, etc.

16 ● REC
Press to start recording. Press repeatedly to set the recording time in 30 minute blocks.

Common Interface

To receive scrambled D.TV channels you will need a CA module and smart card provided by your service provider.

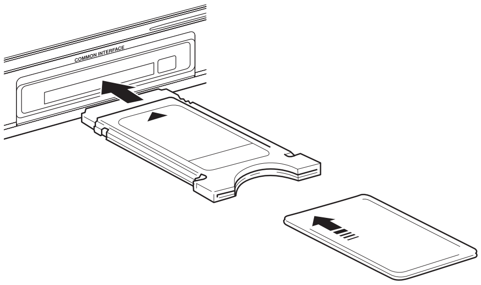
Different CA modules support different encryption systems. This recorder is designed to work with modules that support the DVB standard. Contact your service provider to obtain the right kind of CA module.

Note that neither CA modules nor smart cards are supplied or sold by Pioneer.

Inserting a CA module

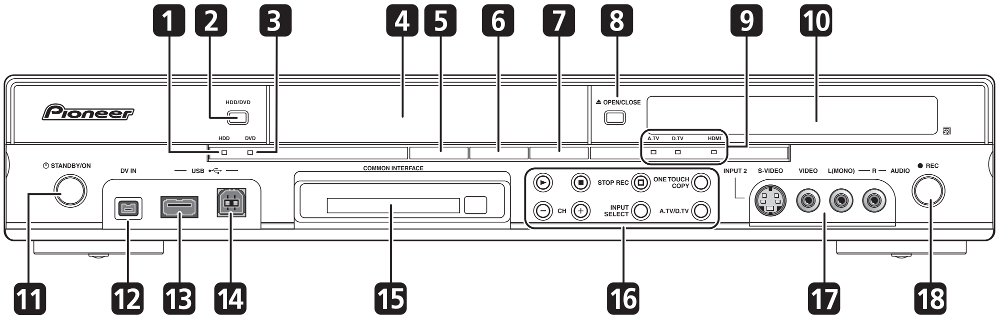
The Common Interface card slot is located on the front panel of the recorder.

- **Insert the CA module into the card slot as far as it will go.**



The Common Interface card slot accepts Type I and Type II PC Cards (PCMCIA cards).

[3] Front Panel (for DVR-560HX-S,-K)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Pioneer
HDD/DVD
HDD
DVD
OPEN/CLOSE
A.TV
D.TV
HDMI
STANDBY/ON
DV IN
USB
COMMON INTERFACE
STOP REC
ONE TOUCH COPY
CH
INPUT SELECT
A.TV/D.TV
INPUT 2
S-VIDEO
VIDEO
L(MONO)
R
AUDIO
REC
11
12
13
14
15
16
17
18

1 HDD indicator
Lights when the hard disk (HDD) is selected.

2 HDD/DVD
Press to switch between HDD and DVD for recording and playback.

3 DVD indicator
Lights when the DVD drive is selected.

4 Disc tray

5 PC VIDEO
Press to play DivX files you have not yet viewed.

6 MUSIC
Press to play music files in random order.

7 PHOTO
Press to play JPEG files in random order.

8 ⏏ OPEN/CLOSE
Press to open/close the disc tray.

9 A.TV indicator
Lights when analog TV is selected.

D.TV indicator
Lights when digital TV is selected.

HDMI indicator
Lights when this recorder is connected to HDMI (HDCP) compatible component.

10 Front panel display and IR remote sensor

11 ⏻ STANDBY/ON
Press to switch the recorder on/into standby.

12 DV IN
A DV input i.LINK connector, suitable for connecting a DV camcorder.

13 USB port (Type A)
USB port for connecting an HDD camcorder, digital camera, keyboard or other USB device.

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15 COMMON INTERFACE slot
Slot for CA module and smart card used to decode scrambled D.TV channels.

16 ►

Press to start or restart playback.

■

Press to stop playback.

☐ STOP REC
Press to stop recording.

ONE TOUCH COPY

Press to start One Touch Copy of the currently playing title to DVD or the HDD.

CH +/–

Use to change channels, skip chapters/tracks, etc.

INPUT SELECT
Press to change the input used for recording.

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Switches between analog TV antenna input and digital TV antenna input. The **A.TV** and **D.TV** indicators show which is selected.

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Press to start recording. Press repeatedly to set the recording time in 30 minute blocks.

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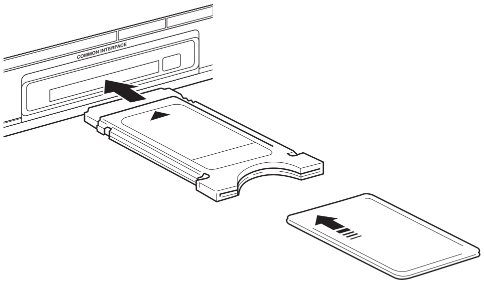
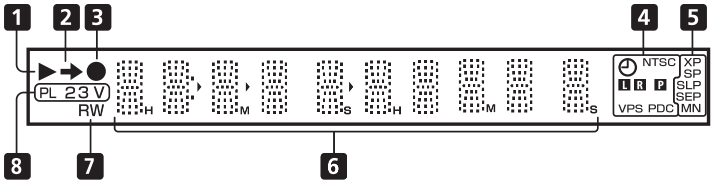


The Common Interface card slot accepts Type I and Type II PC Cards (PCMCIA cards).

[4] Display



1 ▶
Lights during playback; blinks when playback is paused.

2 ➡
Lights when copying.

3 ●
Lights during recording; blinks when recording is paused.

4 ⏲
Lights when a timer recording has been set. (Indicator blinks if the timer has been set to DVD but there isn't a recordable disc loaded, or the timer has been set to record to the HDD but the HDD is not recordable.)

NTSC
Lights when the video output signal format is NTSC.

🅻 🆁
Indicates which channels of a bilingual broadcast are recorded.

🅿
Lights when the component video output is set to progressive scan.

VPS/PDC
Lights when receiving a VPS/PDC broadcast during a VPS/PDC-enabled timer recording.

5 Recording quality indicators

XP
Lights when the recording mode is set to **XP** (high quality).

SP
Lights when the recording mode is set to **SP** (standard play).

LP/SLP
Lights when the recording mode is set to **LP** (long play) or **SLP** (super-long play).

EP/SEP
Lights when the recording mode is set to **EP** (extended play) or **SEP** (super-extended play).

MN
Lights when the recording mode is set to **MN** (manual recording level) mode.

6 Character display

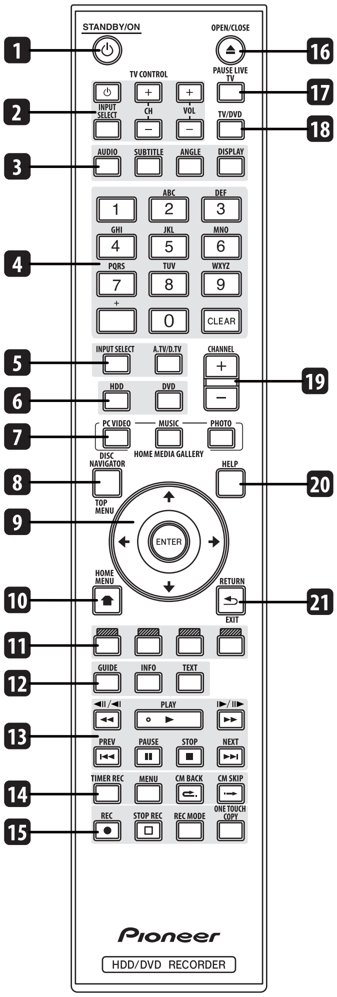
7 R/RW
Lights when a recordable DVD-R or DVD-RW disc is loaded.

8 PL
Lights when a VR mode disc is loaded and the recorder is in Play List mode.

2 3
Shows the remote control mode (if nothing is displayed, the remote control mode is 1).

V
Lights when an unfinalized Video mode disc is loaded.

[5] Remote Control Unit


STANDBY/ON
OPEN/CLOSE
TV CONTROL
PAUSE LIVE TV
INPUT SELECT
CH
VOL
TV/DVD
AUDIO
SUBTITLE
ANGLE
DISPLAY
1
ABC 2
DEF 3
GHI 4
JKL 5
MNO 6
PQRS 7
TUV 8
WXYZ 9
+
0
CLEAR
INPUT SELECT
A.TV/D.TV
CHANNEL
HDD
DVD
PC VIDEO
MUSIC
PHOTO
HOME MEDIA GALLERY
DISC NAVIGATOR
HELP
TOP MENU
ENTER
HOME MENU
RETURN
EXIT
GUIDE
INFO
TEXT
PLAY
PREV
PAUSE
STOP
NEXT
TIMER REC
MENU
CM BACK
CM SKIP
ONE TOUCH COPY
REC
STOP REC
REC MODE
Pioneer
HDD/DVD RECORDER
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2
3
4
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6
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21

1 ⏻ STANDBY/ON
Press to switch the recorder on/into standby.

2 TV CONTROL buttons
After setting up, use these controls to control your TV.

3 AUDIO
Press to change the audio language or channel. (When the recorder is stopped, press to change the tuner audio.)

SUBTITLE
Press to display/change the subtitles included in multilingual DVD-Video discs.

While watching D.TV, press to change the D.TV subtitles.

ANGLE
Press to switch camera angles on discs with multi-angle scenes.

DISPLAY

Displays/changes the on-screen information displays.

4 Number buttons, CLEAR, +
Use the number buttons for track/chapter/title selection; channel selection, and so on. The same buttons can also be used to enter names for titles, discs and so on.

Use **CLEAR** to clear an entry and start again.

5 INPUT SELECT
Press to change the input to use for recording.

A.TV/D.TV
Press to switch between analog TV antenna input and digital TV antenna input. The **A.TV** and **D.TV** indicators on the front panel show which is selected.

6 HDD
Press to select the hard disk (HDD) for recording and playback.

DVD
Press to select DVD for recording and playback.

7 HOME MEDIA GALLERY
Files stored on the HDD can easily be played using these buttons.

PC VIDEO
Press to play DivX files you have not yet viewed.

MUSIC
Press to play music files in random order.

PHOTO
Press to play JPEG files in random order.

8 DISC NAVIGATOR / TOP MENU
Press to display the Disc Navigator screen, or the top menu if a DVD-Video or finalized DVD-R/-RW (Video) disc is loaded.

9 ⬆/⬇/⬅/➡ and ENTER
Used to navigate all on-screen displays. Press **ENTER** to select the currently highlighted option.

While watching D.TV press **ENTER** to display the Channel List screen.

10 HOME MENU
Press to display the Home Menu, from which you can navigate all the functions of the recorder.

11 Colour buttons (RED, GREEN, YELLOW, BLUE)
Use when an EPG screen is displayed or when tuned to a data channel of a digital broadcast. The function of each button will be described on-screen, and changes depending on the screen being displayed.

12 GUIDE
Press to display the EPG screen; press again to exit.

INFO
While watching D.TV, press to display the information banner.

Press to see additional information for the highlighted item in the EPG.

TEXT
Press to display Teletext information (in European countries except the UK) or to start the MHEG application display (UK only) if available during digital broadcasts.

13 Playback controls

◀◀ ▶▶
Press to start reverse or forward scanning. Press again to change the speed.

◀II/◀I I▶/II▶
While paused, press and hold to start slow-motion playback. Press repeatedly to change the playback speed.

While paused, press to advance a single frame in either direction.

When GUIDE Plus+® is displayed, use to display the previous/next day.

▶ PLAY
Press to start playback.

I◀◀ PREV ▶▶I NEXT
Press to skip to the previous or next title/chapter/track; or to display the previous or next menu page.

When GUIDE Plus+® is displayed, use to display the previous/next page.

II PAUSE
Press to pause playback or recording.

■ STOP
Press to stop playback.

14 TIMER REC
Press to set a timer recording.

MENU
Press to display the disc menu if a DVD-Video, finalized DVD-R/-RW (Video mode) or finalized DVD+R/+RW disc is loaded.

When in the GUIDE Plus+® system, use to jump directly to the Menu bar.

↩ CM BACK (commercial back)
Press repeatedly to skip progressively backward through the video playing.

→ CM SKIP (commercial skip)
Press repeatedly to skip progressively forward through the video playing.

15 Recording controls

● REC
Press to start recording. Press repeatedly to set the recording time in blocks of 30 mins.

When the **RED** Action button is visible in a GUIDE Plus+® screen, use for One-Button-Record.

☐ STOP REC
Press to stop recording.

REC MODE
Press repeatedly to change the recording mode (picture quality).

ONE TOUCH COPY
Press to start One Touch Copy of the currently playing title to DVD or the HDD.

16 ⏏ OPEN/CLOSE
Press to open/close the disc tray.

17 PAUSE LIVE TV
Press to start recording the current TV channel, but with playback paused, effectively pausing the broadcast.

18 TV/DVD
Press to switch between 'TV mode', in which you get the picture and sound from the TV's tuner, and 'DVD mode', in which you get picture and sound from the recorder's tuner (or an external input).

19 CHANNEL +/–
Press to change the channel of the built-in TV tuner.

20 HELP
Press for help on how to use the current GUI screen.

21 RETURN/EXIT
Press to go back one level in the on-screen menu or display.

Also press to exit the MHEG application.

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

To keep the product quality after servicing, confirm recommended check points shown below.

No.	Procedures	Item to be checked
1	Confirm the firmware version on the first screen on Service Mode. Also check the compatibility of each firmware (OK or NG).	The version of each firmware must be the latest. All of firmware compatibility must be "OK". Update firmware to the latest one, if it is not the latest or the compatibility is "NG".
2	Confirm whether the customer complain has been solved. If the customer complain occurs with the specific disc, use it for the operation check.	The customer complain must not be reappeared. Video, audio and operations must be normal.
3	Perform the HDD physical test (Self-Test on HDD check mode).	"NG" must not be appeared.
4	Confirm playback error rates at the innermost and outermost tracks by using the following disc. DVD test disc (GGV1025)	The error rates must be less than 8.0e-4.
5	Record from the tuner (or an external source) to the HDD for 1 minute. After that, play back the content.	Video, audio and operations must be normal.
6	Copy the recorded content on the HDD in the previous step to a DVD-RW disc. After that, play back the disc.	Video, audio and operations must be normal.
7	Confirm the user setting, and whether the test-recorded content have been deleted.	Be sure to delete the test-recorded content on the HDD.
8	Check the appearance of the product.	No scratches or dirt on its appearance after receiving it for service.

See the table below for the items to be checked regarding video and audio:

Items to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

[1] Cleaning

Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

[2] Necessary Procedure List When Replacing Assys

Following is the surely necessary procedures and the product state after changing, when replacing next ASSYs.

Replaced ASSY	Necessary setting	State after replacing	
		User setting	**HDD contents**
MAIN ASSY	1. Model setting 2. LD power adjustment 3. CPRM setting 4. Firmware update	×	○
TUSB ASSY	1. Model setting 2. CPRM setting 3. Firmware update	×	○
LOADER ASSY	1. LD power adjustment	○	○
HDD	1. CPRM setting 2.Gracenote Database update	○	×

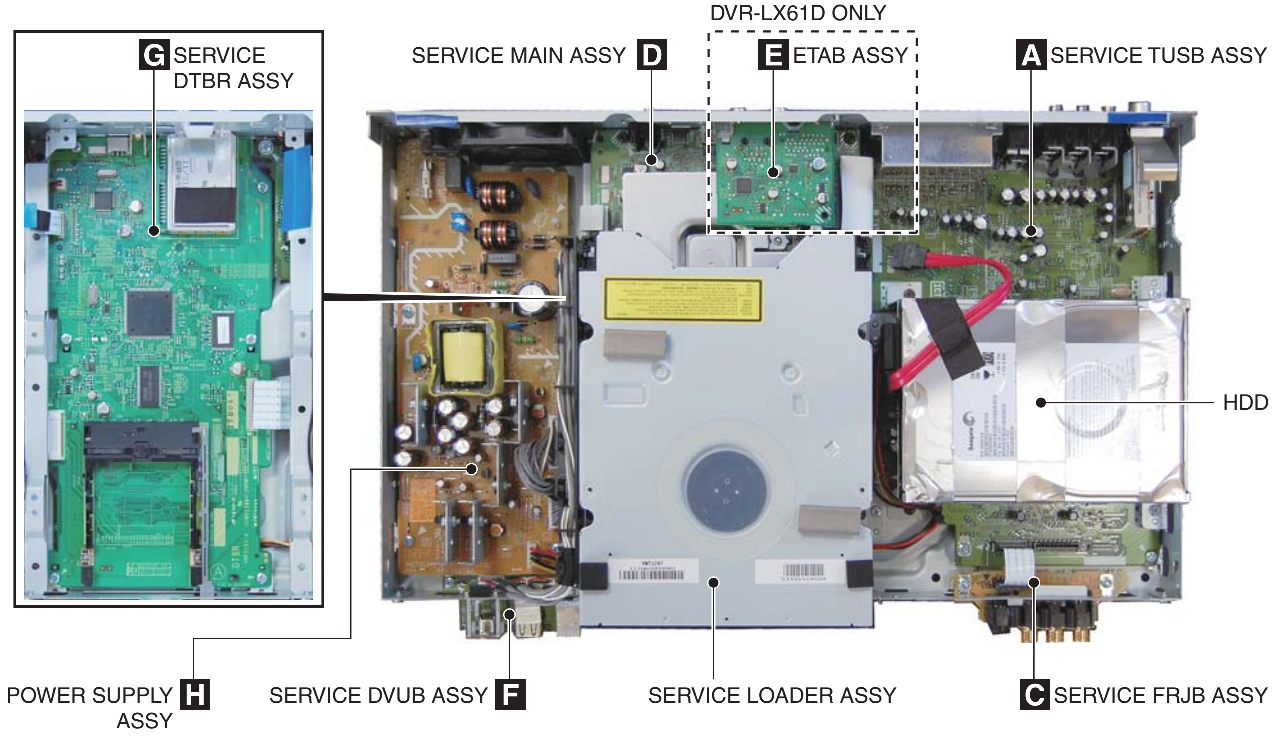
3.2 QUICK REFERENCE

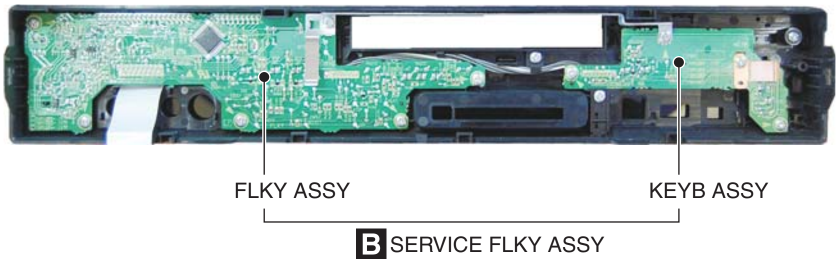
Description of work	Procedure	Jigs
LD power adjustment	[ESC]+[CX]+[1]+[0]	GGF1381 : Service Remote Control Unit
		GGV1054 : CD-ROM (CDT-313)
		GGV1036 : DVD-ROM DL (DVDT-002)
		GGV1278 : Blank DVD-R (That's DR-C12WTY5PA)
		GGV1282 : Blank DVD-RW (JVC VD-W120XH5)
		GGV1284 : Blank DVD-RAM (maxell DRM120C.1P5S)
ID input	[ESC]+[STEREO]	GGF1381 : Service Remote Control Unit
		GGV1321 : ID disc
Firmware update	[REC STOP]+[PLAY]	Update disc
Version check	[ESC]+[DISP]	GGF1381 : Service Remote Control Unit
Error Rate Measurement	[ESC]+[DISP]+[DIG/ANA] × twice	GGF1381 : Service Remote Control Unit
		Operation check disc (See remarks)
HDD Check Mode	[ESC]+[CX]+[0]+[1]	GGF1381 : Service Remote Control Unit
Indication of VR-playback-related error log	[ESC]+[DISP]+[5]+[DIG/ANA]	GGF1381 : Service Remote Control Unit
Indication of VR-recording-related error log	[ESC]+[DISP]+[4]+[DIG/ANA] × 3times	GGF1381 : Service Remote Control Unit

Remarks

Disc for check of recording/playback operations (Note) When judging the drive quality, make sure to use the operation check disc.	Operation check discs (manufacturers and model numbers)	Error rate threshold
	GGV1278 : Blank DVD-R (That's DR-C12WTY5PA)	3.3e-3 or below
	GGV1279 : Blank DVD-R DL (MCM VHR21YD1)	L0 : 3.3e-3 or below
		L1 : 3.3e-3 or below
	GGV1280 : Blank DVD+R (That's DR+120TY5PA)	3.3e-3 or below
	GGV1281 : Blank DVD+R DL (MCM VTR21N1)	L0 : 3.3e-3 or below
		L1 : 3.3e-3 or below
	GGV1189 : Blank DVD-RW (JVC VD-W120N10)	3.3e-3 or below
	GGV1282 : Blank DVD-RW [RW2] (JVC VD-W120XH5)	3.3e-3 or below
	GGV1283 : Blank DVD+RW (RICOH D4RWV-S3CW)	3.3e-3 or below
	GGV1284 : Blank DVD-RAM (maxell DRM120C.1P5S)	3.3e-3 or below
	GGV1036 : DVD-ROM DL (DVDT-002)	L0/L1 : 8.0e-4 or below
How to read error rate	X.Xe-Y Y: The bigger the better, X X: The smaller the better	
How to exit from Service Mode	[ESC]	

3.3 PCB LOCATIONS


DVR-LX61D ONLY
G SERVICE DTBR ASSY
SERVICE MAIN ASSY D
E ETAB ASSY
A SERVICE TUSB ASSY
HDD
POWER SUPPLY H ASSY
SERVICE DVUB ASSY F
SERVICE LOADER ASSY
C SERVICE FRJB ASSY


FLKY ASSY
KEYB ASSY
B SERVICE FLKY ASSY

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

LIST OF ASSEMBLIES

• For DVR-LX61D model

Mark	No.	Description	Part No.
	1..	ETAB ASSY	VWV2344
NSP	1..	TUJB ASSY	YWM1001
	2..	SERVICE DVUB ASSY	YXX1001
	2..	SERVICE TUSB ASSY	YXX1002
NSP	1..	FLKB ASSY	YWM1004
	2..	SERVICE FRJB ASSY	YXX1027
	2..	SERVICE FLKY ASSY	YXX1006
NSP	1..	DTBR ASSY	VWV2346
	2..	SERVICE DTBR ASSY	VXX3319
NSP	1..	SERVICE LOADER MAIN	VXU1016
	2..	SERVICE MAIN ASSY	VXX3320
	2..	SERVICE LOADER ASSY	VXX3306
⚠	1..	POWER SUPPLY ASSY	VWR1405
	1..	HDD	VXF1131

• For DVR-560HX model

Mark	No.	Description	Part No.
NSP	1..	TUJB ASSY	YWM1001
	2..	SERVICE DVUB ASSY	YXX1001
	2..	SERVICE TUSB ASSY	YXX1002
NSP	1..	FLKB ASSY	YWM1003
	2..	SERVICE FRJB ASSY	YXX1004
	2..	SERVICE FLKY ASSY	YXX1005
NSP	1..	DTBR ASSY	VWV2346
	2..	SERVICE DTBR ASSY	VXX3319
NSP	1..	SERVICE LOADER MAIN	VXU1015
	2..	SERVICE MAIN ASSY	VXX3321
	2..	SERVICE LOADER ASSY	VXX3306
⚠	1..	POWER SUPPLY ASSY	VWR1405
	1..	HDD	VXF1152

3.4 JIGS LIST

[1] Jigs List

Name	Jig No.	Remarks
Service Remote Control Unit	GGF1381	Adjustment, diagnosis
DVD Test Disc (DVD-Video)	GGV1025	Check of DVD-Video
DVD Recorder Data Disc Type2	——— (*)	Diagnosis (ID data setting)
FFC Cable (40p)	GGD1436	Diagnosis of MAIN Assy
FFC Cable (24p)	GGD1421	Diagnosis of MAIN Assy
CD-ROM	GGV1054	LD Power Adjustment
DVD-ROM DL	GGV1036	LD Power Adjustment
Blank DVD-R	GGV1278	LD Power Adjustment
Blank DVD-RW	GGV1282	LD Power Adjustment
Blank DVD-RAM	GGV1284	LD Power Adjustment
Disc Ejection Rod	GGF1529	Emergency Disc Ejection
USB Cable	GGD1445	USB Check Mode
RS-232C I/F Jig	GGF1348	Serial Update
FFC Cable (7P)	VDA1681	Serial Update

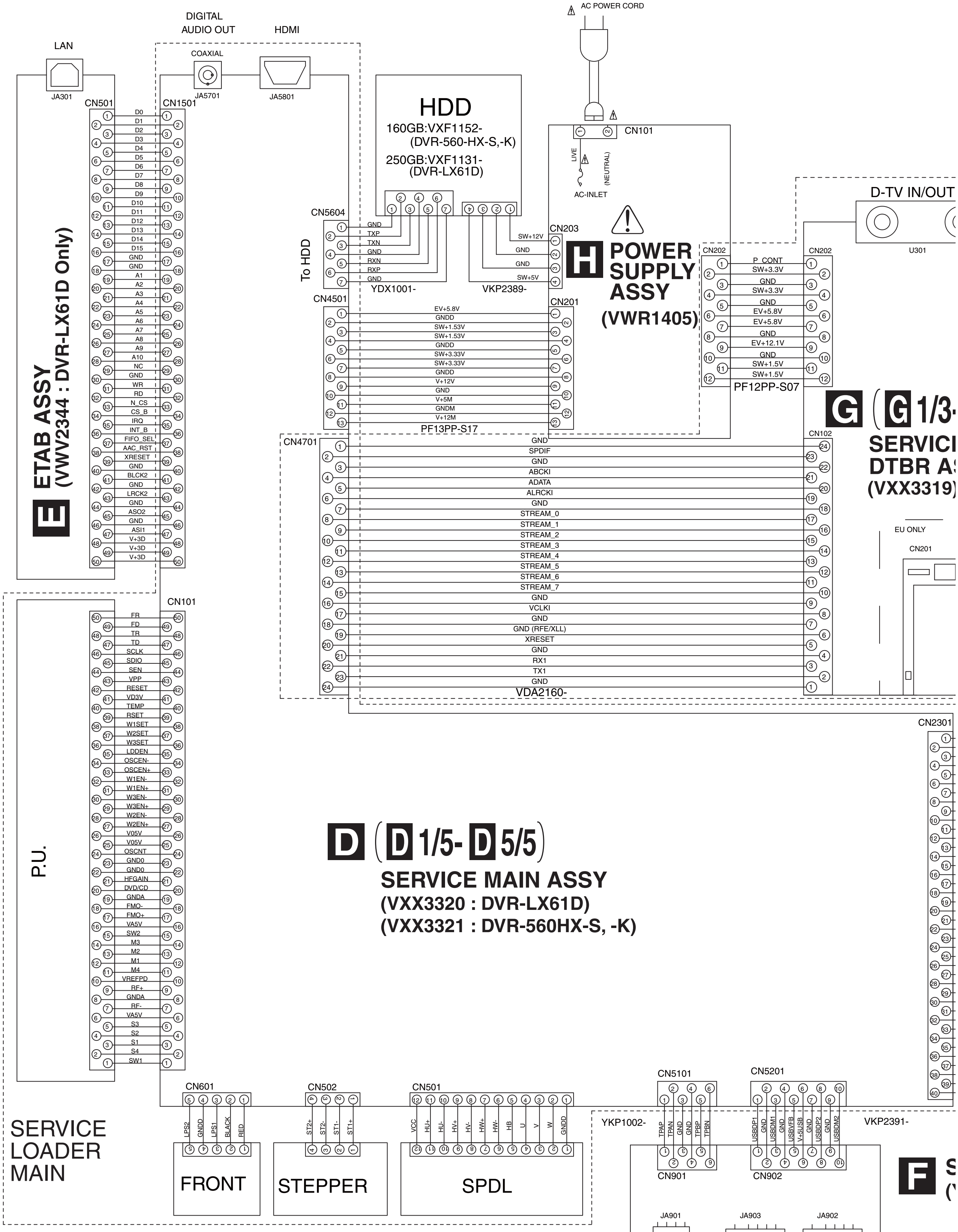
(*) Be sure to use the latest disc (Type 2).
In Apr, 2008, the latest disc is GGV1321.

[2] Lubricants and Glues List

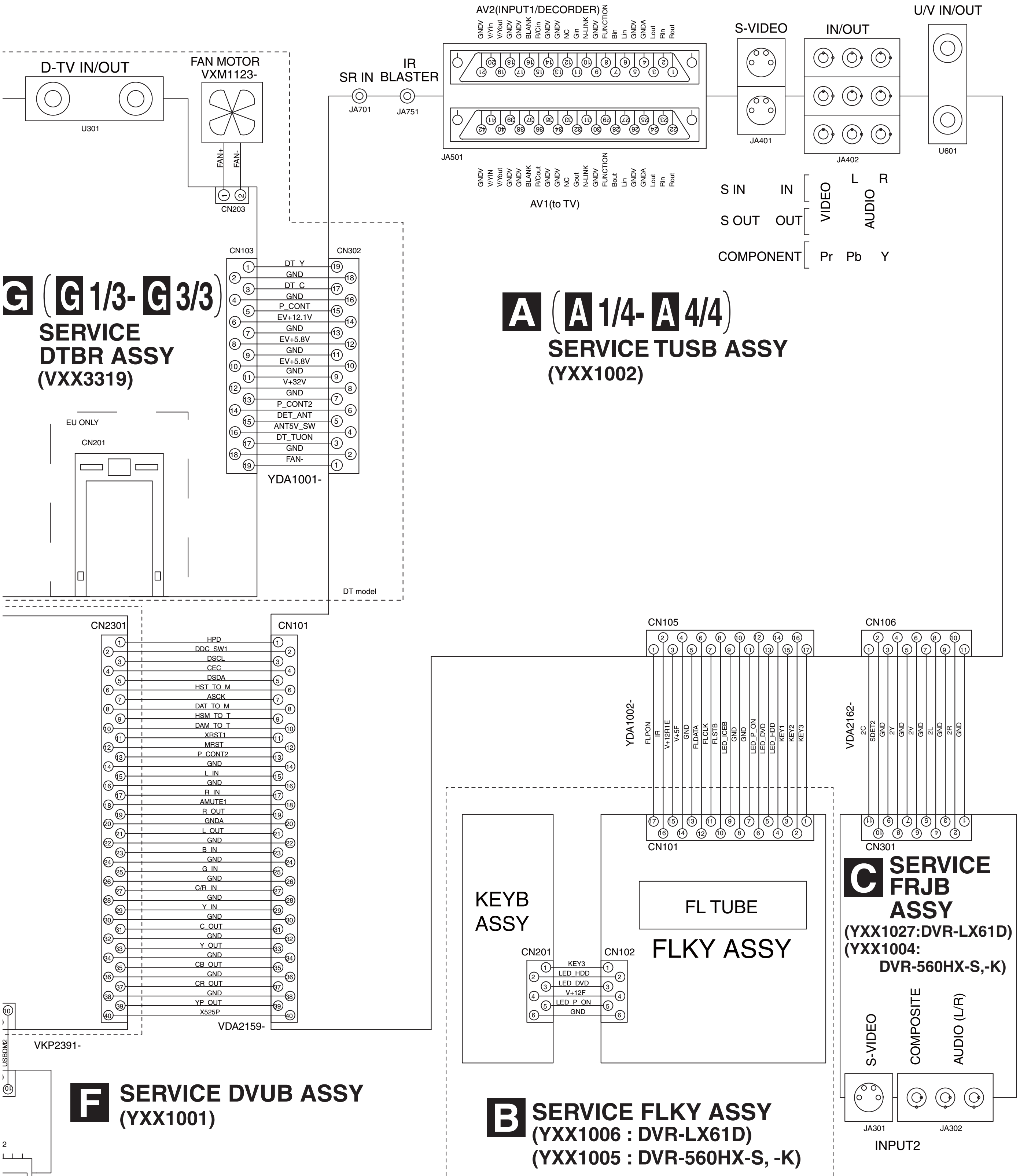
Name	Lubricants and Glues No.	Remarks
Hanarl	GEM1041	refer to "FRONT PANEL SECTION"

4. BLOCK DIAGRAM

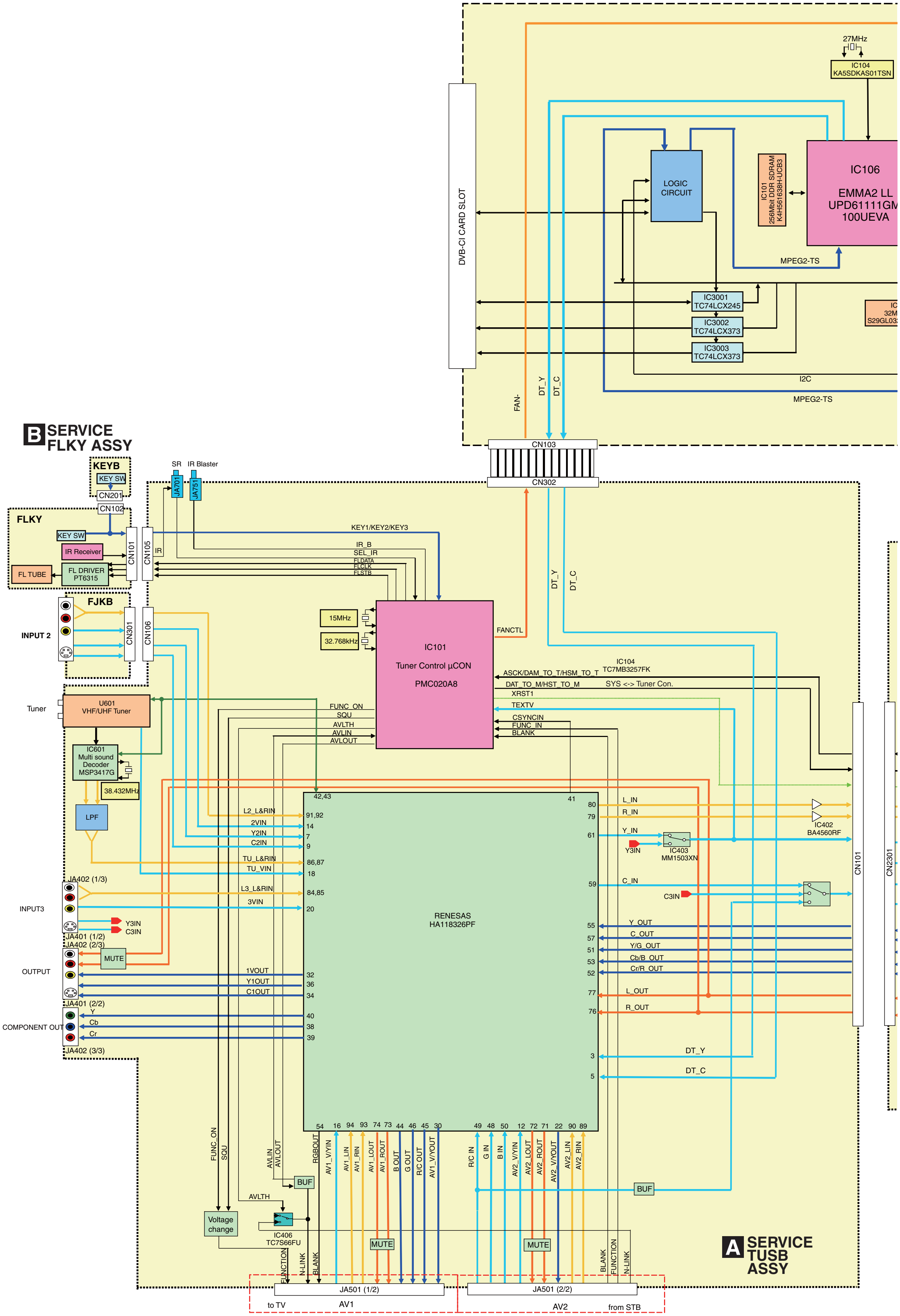
4.1 OVERALL WIRING DIAGRAM

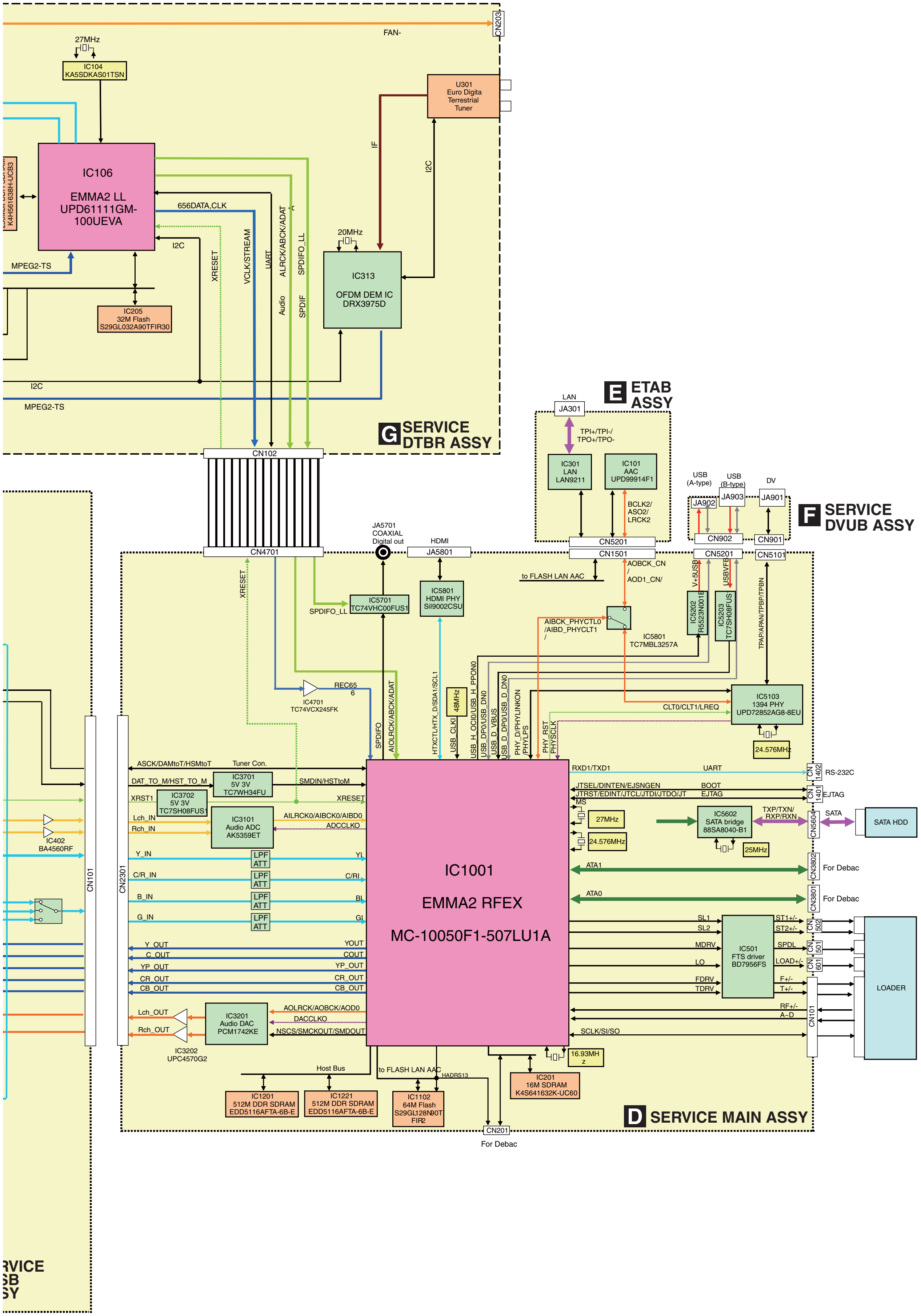

A
B
C
D
E
F
LAN
JA301
DIGITAL AUDIO OUT
COAXIAL
JA5701
HDMI
JA5801
AC POWER CORD
CN501
CN1501
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
GND
GND
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
NC
GND
WR
RD
N_CS
CS_B
IRQ
INT_B
FIFO_SEL
AAC_RST
XRESET
GND
BLCK2
GND
LRCK2
GND
ASO2
GND
ASI1
V+3D
V+3D
V+3D
E ETAB ASSY
(VWV2344 : DVR-LX61D Only)
HDD
160GB:VXF1152-
(DVR-560-HX-S,-K)
250GB:VXF1131-
(DVR-LX61D)
CN5604
To HDD
GND
TXP
TXN
GND
RXN
RXP
GND
YDX1001-
VKP2389-
SW+12V
GND
GND
SW+5V
CN203
CN101
LIVE
(NEUTRAL)
AC-INLET
H POWER SUPPLY ASSY
(VWR1405)
CN4501
CN201
EV+5.8V
GNDD
SW+1.53V
SW+1.53V
GNDD
SW+3.33V
SW+3.33V
GNDD
V+12V
GND
V+5M
GNDM
V+12M
PF13PP-S17
CN202
CN202
P_CONT
SW+3.3V
GND
SW+3.3V
GND
EV+5.8V
EV+5.8V
GND
EV+12.1V
GND
SW+1.5V
SW+1.5V
PF12PP-S07
D-TV IN/OUT
U301
G (G 1/3-
SERVIC
DTBR A
(VXX3319)
EU ONLY
CN201
CN4701
CN102
GND
SPDIF
GND
ABCKI
ADATA
ALRCKI
GND
STREAM_0
STREAM_1
STREAM_2
STREAM_3
STREAM_4
STREAM_5
STREAM_6
STREAM_7
GND
VCLKI
GND
GND (RFE/XLL)
XRESET
GND
RX1
TX1
GND
VDA2160-
CN101
FR
FD
TR
TD
SCLK
SDIO
SEN
VPP
RESET
VD3V
TEMP
RSET
W1SET
W2SET
W3SET
LDDEN
OSCEN-
OSCEN+
W1EN-
W1EN+
W3EN-
W3EN+
W2EN-
W2EN+
V05V
V05V
OSCNT
GND0
GND0
HFGAIN
DVD/CD
GNDA
FMO-
FMO+
VA5V
SW2
M3
M2
M1
M4
VREFPD
RF+
GNDA
RF-
VA5V
S3
S2
S1
S4
SW1
P.U.
CN2301
D (D 1/5- D 5/5)
SERVICE MAIN ASSY
(VXX3320 : DVR-LX61D)
(VXX3321 : DVR-560HX-S, -K)
CN601
LPS2
GNDD
LPS1
BLACK
RED
CN502
ST2+
ST2-
ST1-
ST1+
CN501
VCC
HU+
HU-
HV+
HV-
HW+
HW-
HB
U
V
W
GNDD
SERVICE LOADER MAIN
FRONT
STEPPER
SPDL
CN5101
CN5201
YKP1002-
TPAP
TPAN
GND
GND
TPBP
TPBN
VKP2391-
USBDP1
GND
USBDM1
GND
USBVFB
V+5USB
USBDP2
GND
GND
USBDM2
CN901
CN902
JA901
JA903
JA902
F S
(V

When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
⬭ : The power supply is shown with the marked box.

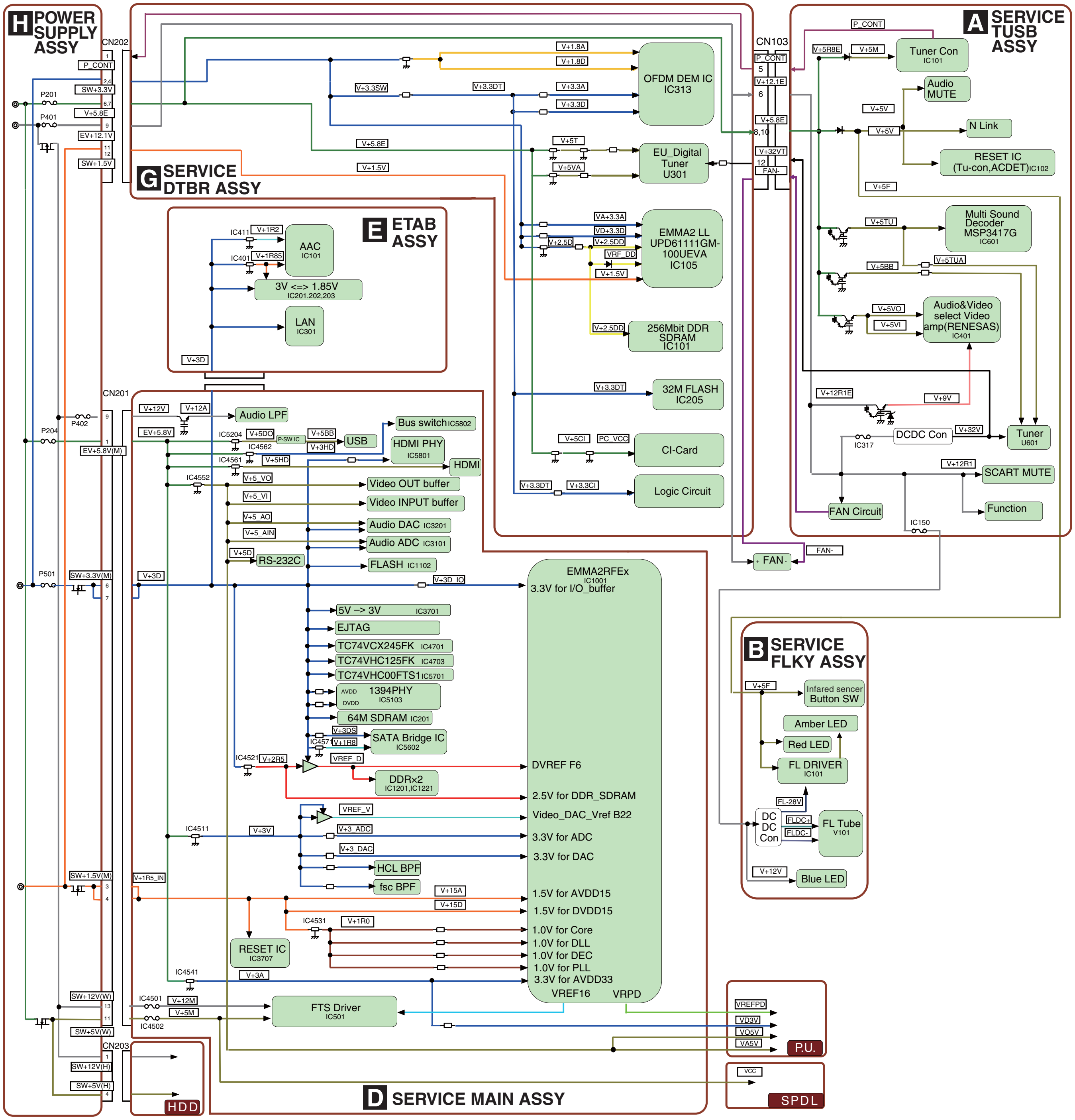

D-TV IN/OUT
U301
FAN MOTOR
VXM1123-
FAN+
FAN-
CN203
SR IN
IR BLASTER
JA701
JA751
AV2(INPUT1/DECORDER)
JA501
AV1(to TV)
S-VIDEO
JA401
IN/OUT
JA402
U/V IN/OUT
U601
S IN
IN
S OUT
OUT
VIDEO
AUDIO
L
R
COMPONENT
Pr
Pb
Y
CN103
CN302
DT_Y
GND
DT_C
GND
P_CONT
EV+12.1V
GND
EV+5.8V
GND
EV+5.8V
GND
V+32V
GND
P_CONT2
DET_ANT
ANT5V_SW
DT_TUON
GND
FAN-
YDA1001-
G (G 1/3- G 3/3)
SERVICE
DTBR ASSY
(VXX3319)
EU ONLY
CN201
DT model
A (A 1/4- A 4/4)
SERVICE TUSB ASSY
(YXX1002)
CN2301
CN101
HPD
DDC_SW1
DSCL
CEC
DSDA
HST_TO_M
ASCK
DAT_TO_M
HSM_TO_T
DAM_TO_T
XRST1
MRST
P_CONT2
GND
L_IN
GND
R_IN
AMUTE1
R_OUT
GNDA
L_OUT
GND
B_IN
GND
G_IN
GND
C/R_IN
GND
Y_IN
GND
C_OUT
GND
Y_OUT
GND
CB_OUT
GND
CR_OUT
GND
YP_OUT
X525P
VDA2159-
VKP2391-
USBDM2
F SERVICE DVUB ASSY
(YXX1001)
CN105
CN106
YDA1002-
FLPON
IR
V+12R1E
V+5F
GND
FLDATA
FLCLK
FLSTB
LED_ICEB
GND
GND
LED_P_ON
LED_DVD
LED_HDD
KEY1
KEY2
KEY3
VDA2162-
2C
SDET2
GND
2Y
GND
2V
GND
2L
GND
2R
GND
CN101
KEYB
ASSY
CN201
CN102
KEY3
LED_HDD
LED_DVD
V+12F
LED_P_ON
GND
FL TUBE
FLKY ASSY
B SERVICE FLKY ASSY
(YXX1006 : DVR-LX61D)
(YXX1005 : DVR-560HX-S, -K)
CN301
C SERVICE FRJB ASSY
(YXX1027:DVR-LX61D)
(YXX1004:
DVR-560HX-S,-K)
S-VIDEO
COMPOSITE
AUDIO (L/R)
JA301
JA302
INPUT2

4.2 OVERALL BLOCK DIAGRAM


DVB-CI CARD SLOT
27MHz
IC104
KA5SDKAS01TSN
LOGIC
CIRCUIT
IC101
256Mbit DDR SDRAM
K4H561638H-UCB3
IC106
EMMA2 LL
UPD61111GM
100UEVA
MPEG2-TS
IC3001
TC74LCX245
IC3002
TC74LCX373
IC3003
TC74LCX373
IC
32M
S29GL03
I2C
MPEG2-TS
FAN-
DT_Y
DT_C
CN103
CN302
B SERVICE
FLKY ASSY
KEYB
KEY SW
CN201
CN102
FLKY
KEY SW
IR Receiver
FL DRIVER
PT6315
FL TUBE
CN101
CN105
IR
SR
IR Blaster
JA701
JA751
KEY1/KEY2/KEY3
IR_B
SEL_IR
FLDATA
FLCLK
FLSTB
FJKB
INPUT 2
CN301
CN106
15MHz
32.768kHz
IC101
Tuner Control µCON
PMC020A8
FANCTL
DT_Y
DT_C
IC104
TC7MB3257FK
ASCK/DAM_TO_T/HSM_TO_T
DAT_TO_M/HST_TO_M
SYS <-> Tuner Con.
XRST1
TEXTV
CSYNCIN
FUNC_IN
BLANK
FUNC_ON
SQU
AVLTH
AVLIN
AVLOUT
Tuner
U601
VHF/UHF Tuner
IC601
Multi sound
Decoder
MSP3417G
38.432MHz
LPF
42,43
41
L2_L&RIN
91,92
2VIN
14
Y2IN
7
C2IN
9
TU_L&RIN
86,87
TU_VIN
18
L3_L&RIN
84,85
3VIN
20
RENESAS
HA118326PF
80
L_IN
79
R_IN
61
Y_IN
Y3IN
IC403
MM1503XN
IC402
BA4560RF
59
C_IN
C3IN
55
Y_OUT
57
C_OUT
51
Y/G_OUT
53
Cb/B_OUT
52
Cr/R_OUT
77
L_OUT
76
R_OUT
3
DT_Y
5
DT_C
CN101
CN2301
JA402 (1/3)
INPUT3
Y3IN
C3IN
JA401 (1/2)
JA402 (2/3)
MUTE
OUTPUT
1VOUT
32
Y1OUT
36
C1OUT
34
JA401 (2/2)
Y
Cb
Cr
COMPONENT OUT
40
38
39
JA402 (3/3)
54 16 94 93 74 73 44 46 45 30
49 48 50 12 72 71 22 90 89
FUNC_ON
SQU
AVLIN
AVLOUT
RGBOUT
AV1_V/YIN
AV1_LIN
AV1_RIN
AV1_LOUT
AV1_ROUT
B OUT
G OUT
R/C OUT
AV1_V/YOUT
R/C IN
G IN
B IN
AV2_V/YIN
AV2_LOUT
AV2_ROUT
AV2_V/YOUT
AV2_LIN
AV2_RIN
BUF
AVLTH
BUF
Voltage
change
IC406
TC7S66FU
MUTE
MUTE
FUNCTION
N-LINK
BLANK
BLANK
FUNCTION
N-LINK
JA501 (1/2)
JA501 (2/2)
to TV
AV1
AV2
from STB
A SERVICE
TUSB
ASSY

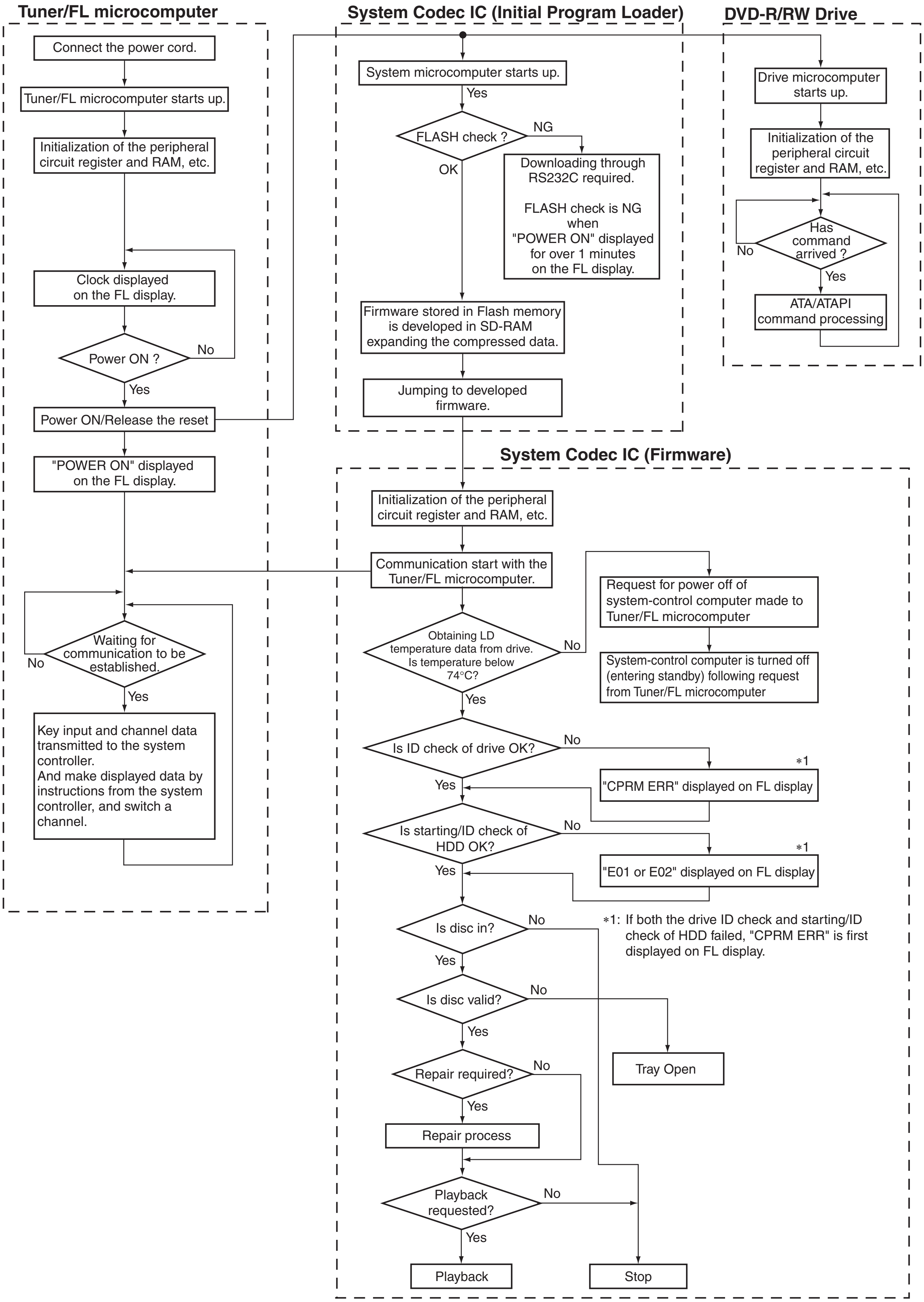

G SERVICE DTBR ASSY
FAN-
CN203
27MHz
IC104
KA5SDKAS01TSN
U301
Euro Digita
Terrestrial
Tuner
IF
I2C
IC106
EMMA2 LL
UPD61111GM-100UEVA
K4H561638H-UCB3
656DATA,CLK
I2C
MPEG2-TS
XRESET
VCLK/STREAM
UART
ALRCK/ABCK/ADAT
Audio
SPDIFO_LL
SPDIF
20MHz
IC313
OFDM DEM IC
DRX3975D
IC205
32M Flash
S29GL032A90TFIR30
I2C
MPEG2-TS
CN102
CN4701
E ETAB ASSY
LAN
JA301
TPI+/TPI-/
TPO+/TPO-
IC301
LAN
LAN9211
IC101
AAC
UPD99914F1
BCLK2/
ASO2/
LRCK2
CN5201
CN1501
AOBCK_CN
/
AOD1_CN/
to FLASH LAN AAC
F SERVICE DVUB ASSY
USB
(A-type)
USB
(B-type)
DV
JA902
JA903
JA901
CN902
CN901
CN5201
CN5101
V+5USB
USBVFB
IC5202
R5523N001B
IC5203
TC7SH08FUS
TPAP/APAN/TPBP/TPBN
JA5701
COAXIAL
Digital out
HDMI
JA5801
IC5801
HDMI PHY
SII9002CSU
IC5701
TC74VHC00FUS1
SPDIFO_LL
AIBCK_PHYCTL0
/AIBD_PHYCLT1
/
IC5801
TC7MBL3257A
REC65
6
IC4701
TC74VCX245FK
SPDIFO
AIOLRCK/ABCK/ADAT
HTXCTL/HTX_D/SDA1/SCL1
48MHz
USB_CLK
USB_H_OCI0/USB_H_PPON0
USB_DP0/USB_DN0
USB_D_VBUS
USB_D_DP0/USB_D_DN0
PHY_D/PHYLINKON
/PHYLPS
PHY_RST
PHYSCLK
CLT0/CLT1/LREQ
IC5103
1394 PHY
UPD72852AG8-8EU
24.576MHz
ASCK/DAMtoT/HSMtoT
Tuner Con.
DAT_TO_M/HST_TO_M
IC3701
5V 3V
TC7WH34FU
SMDIN/HSTtoM
XRST1
IC3702
5V 3V
TC7SH08FUS1
XRESET
Lch_IN
Rch_IN
IC3101
Audio ADC
AK5359ET
AILRCK0/AIBCK0/AIBD0
ADCCLK0
IC402
BA4560RF
Y_IN
C/R_IN
B_IN
G_IN
LPF
ATT
YI
C/RI
BI
GI
CN101
CN2301
Y_OUT
C_OUT
YP_OUT
CR_OUT
CB_OUT
YOUT
COUT
YP_OUT
CR_OUT
CB_OUT
Lch_OUT
Rch_OUT
IC3201
Audio DAC
PCM1742KE
AOLRCK/AOBCK/AOD0
DACCLK0
NSCS/SMCKOUT/SMDOUT
IC3202
UPC4570G2
IC1001
EMMA2 RFEX
MC-10050F1-507LU1A
RXD1/TXD1
UART
RS-232C
CN1402
JTSEL/DINTEN/EJSNGEN
BOOT
JTRST/EDINT/JTCL/JTDI/JTDO/JT
EJTAG
MS
CN1401
27MHz
24.576MHz
IC5602
SATA bridge
88SA8040-B1
TXP/TXN/
RXP/RXN
SATA
CN5604
SATA HDD
25MHz
ATA1
CN3802
For Debac
ATA0
CN3801
For Debac
SL1
SL2
MDRV
LO
FDRV
TDRV
IC501
FTS driver
BD7956FS
ST1+/-
ST2+/-
SPDL
LOAD+/-
F+/-
T+/-
CN502
CN501
CN601
LOADER
RF+/-
A~D
SCLK/SI/SO
CN101
16.93MHz
Host Bus
to FLASH LAN AAC
HADRS13
IC201
16M SDRAM
K4S641632K-UC60
IC1201
512M DDR SDRAM
EDD5116AFTA-6B-E
IC1221
512M DDR SDRAM
EDD5116AFTA-6B-E
IC1102
64M Flash
S29GL128N90T
FIR2
CN201
For Debac
D SERVICE MAIN ASSY
RVICE
SB
SY

4.3 POWER BLOCK DIAGRAM


H POWER SUPPLY ASSY
CN202
P_CONT
SW+3.3V
V+5.8E
EV+12.1V
SW+1.5V
P201
P401
G SERVICE DTBR ASSY
V+1.8A
V+1.8D
V+3.3SW
V+3.3DT
V+3.3A
V+3.3D
OFDM DEM IC IC313
V+5.8E
V+5T
V+1.5V
V+5VA
EU_Digital Tuner U301
CN103
P_CONT
V+12.1E
V+5.8E
V+32VT
FAN-
VA+3.3A
VD+3.3D
V+2.5D
V+2.5DD
VRF_DD
V+1.5V
EMMA2 LL UPD61111GM-100UEVA IC105
V+2.5DD
256Mbit DDR SDRAM IC101
V+3.3DT
32M FLASH IC205
V+5CI
PC_VCC
CI-Card
V+3.3DT
V+3.3CI
Logic Circuit
E ETAB ASSY
IC411
V+1R2
IC401
V+1R85
AAC IC101
3V <=> 1.85V IC201,202,203
LAN IC301
V+3D
A SERVICE TUSB ASSY
P_CONT
V+5R8E
V+5M
Tuner Con IC101
Audio MUTE
V+5V
V+5V
N Link
RESET IC (Tu-con,ACDET)IC102
V+5F
V+5TU
Multi Sound Decoder MSP3417G IC601
V+5BB
V+5TUA
V+5VO
V+5VI
Audio&Video select Video amp(RENESAS) IC401
V+12R1E
V+9V
IC317
DCDC Con
V+32V
Tuner U601
V+12R1
SCART MUTE
FAN Circuit
Function
IC150
FAN-
FAN
CN201
V+12V
V+12A
P402
P204
EV+5.8V(M)
Audio LPF
IC5204
V+5DO
P-SW IC
V+5BB
IC4562
V+3HD
USB
Bus switch IC5802
HDMI PHY IC5801
IC4561
V+5HD
HDMI
IC4552
V+5_VO
Video OUT buffer
V+5_VI
Video INPUT buffer
V+5_AO
Audio DAC IC3201
V+5_AIN
Audio ADC IC3101
V+5D
RS-232C
FLASH IC1102
P501
SW+3.3V(M)
V+3D
V+3D_IO
EMMA2RFEx IC1001
3.3V for I/O_buffer
5V --> 3V IC3701
EJTAG
TC74VCX245FK IC4701
TC74VHC125FK IC4703
TC74VHC00FTS1 IC5701
AVDD 1394PHY DVDD IC5103
64M SDRAM IC201
V+3DS
IC4571
V+1R8
SATA Bridge IC IC5602
IC4521
V+2R5
VREF_D
DVREF F6
DDRx2 IC1201,IC1221
2.5V for DDR_SDRAM
VREF_V
Video_DAC_Vref B22
IC4511
V+3V
V+3_ADC
3.3V for ADC
V+3_DAC
3.3V for DAC
HCL BPF
fsc BPF
SW+1.5V(M)
V+1R5_IN
V+15A
1.5V for AVDD15
V+15D
1.5V for DVDD15
IC4531
V+1R0
1.0V for Core
1.0V for DLL
1.0V for DEC
1.0V for PLL
RESET IC IC3707
IC4541
V+3A
3.3V for AVDD33
VREF16
VRPD
SW+12V(W)
IC4501
V+12M
V+5M
IC4502
FTS Driver IC501
SW+5V(W)
CN203
SW+12V(H)
SW+5V(H)
HDD
D SERVICE MAIN ASSY
B SERVICE FLKY ASSY
V+5F
Infared sencer Button SW
Amber LED
Red LED
FL DRIVER IC101
FL-28V
DC DC Con
FLDC+
FLDC-
FL Tube V101
V+12V
Blue LED
VREFPD
VD3V
VO5V
VA5V
P.U.
VCC
SPDL

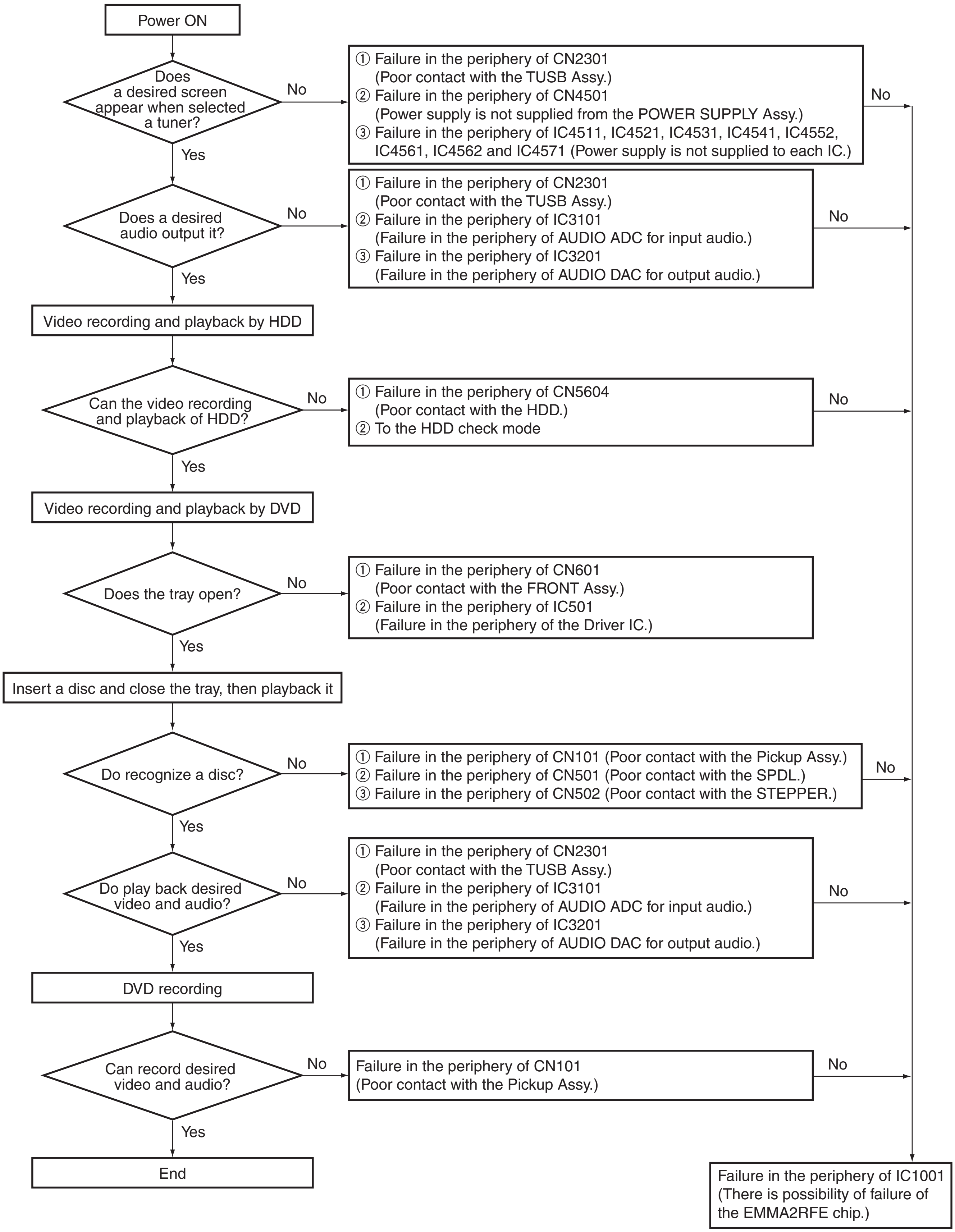
5. DIAGNOSIS

5.1 SETUP SEQUENCE


Tuner/FL microcomputer
Connect the power cord.
Tuner/FL microcomputer starts up.
Initialization of the peripheral circuit register and RAM, etc.
Clock displayed on the FL display.
Power ON ?
No
Yes
Power ON/Release the reset
"POWER ON" displayed on the FL display.
Waiting for communication to be established.
No
Yes
Key input and channel data transmitted to the system controller.
And make displayed data by instructions from the system controller, and switch a channel.
System Codec IC (Initial Program Loader)
System microcomputer starts up.
Yes
FLASH check ?
NG
OK
Downloading through RS232C required.
FLASH check is NG when "POWER ON" displayed for over 1 minutes on the FL display.
Firmware stored in Flash memory is developed in SD-RAM expanding the compressed data.
Jumping to developed firmware.
DVD-R/RW Drive
Drive microcomputer starts up.
Initialization of the peripheral circuit register and RAM, etc.
Has command arrived ?
No
Yes
ATA/ATAPI command processing
System Codec IC (Firmware)
Initialization of the peripheral circuit register and RAM, etc.
Communication start with the Tuner/FL microcomputer.
Obtaining LD temperature data from drive. Is temperature below 74°C?
No
Request for power off of system-control computer made to Tuner/FL microcomputer
System-control computer is turned off (entering standby) following request from Tuner/FL microcomputer
Yes
Is ID check of drive OK?
No
∗1
"CPRM ERR" displayed on FL display
Yes
Is starting/ID check of HDD OK?
No
∗1
"E01 or E02" displayed on FL display
Yes
Is disc in?
No
Yes
Is disc valid?
No
Yes
Tray Open
Repair required?
No
Yes
Repair process
Playback requested?
No
Yes
Playback
Stop

∗1: If both the drive ID check and starting/ID check of HDD failed, "CPRM ERR" is first displayed on FL display.

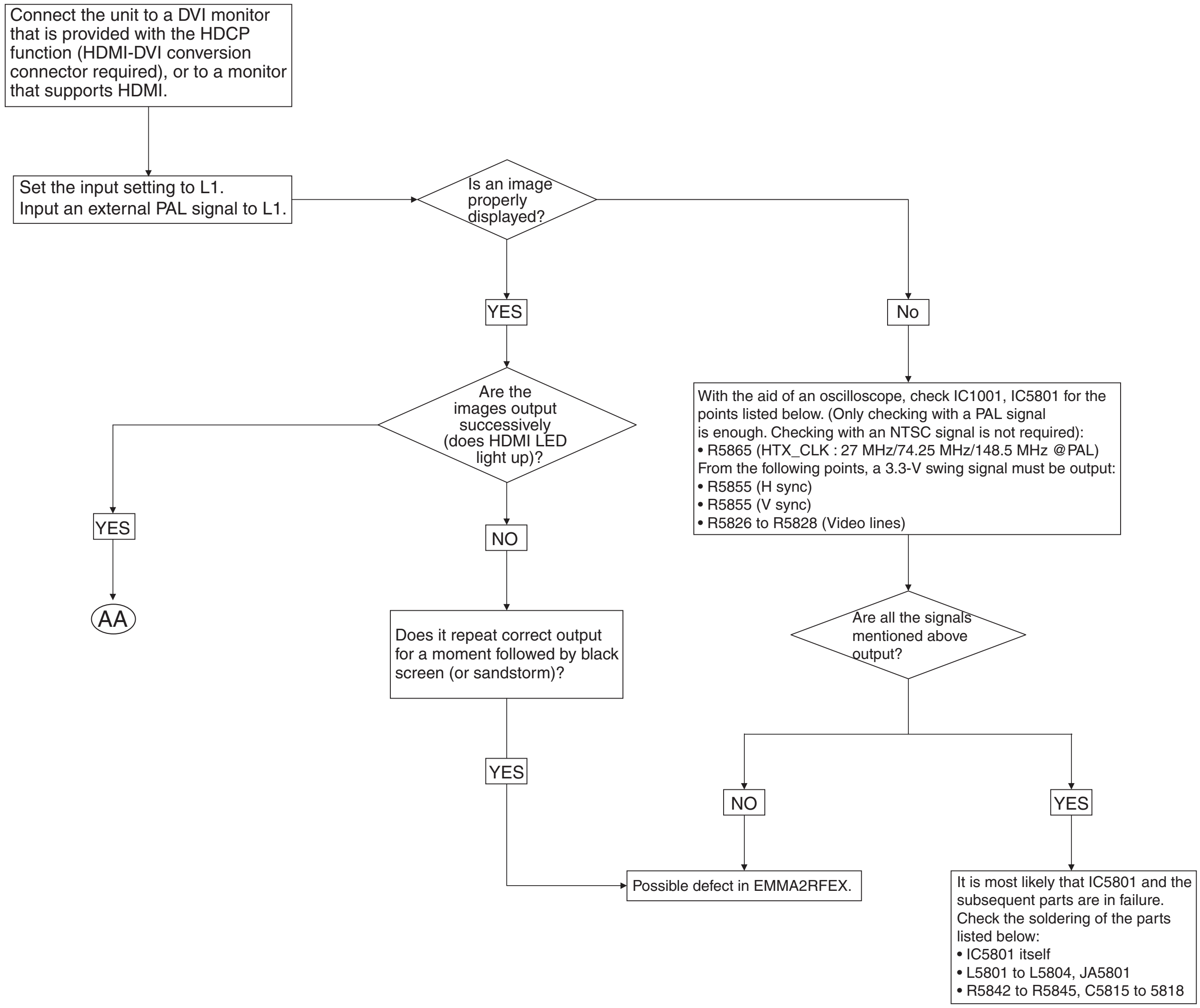
5.2 DIAGNOSIS OF THE MAIN ASSY


Power ON
Does a desired screen appear when selected a tuner?
No
① Failure in the periphery of CN2301 (Poor contact with the TUSB Assy.)
② Failure in the periphery of CN4501 (Power supply is not supplied from the POWER SUPPLY Assy.)
③ Failure in the periphery of IC4511, IC4521, IC4531, IC4541, IC4552, IC4561, IC4562 and IC4571 (Power supply is not supplied to each IC.)
No
Yes
Does a desired audio output it?
No
① Failure in the periphery of CN2301 (Poor contact with the TUSB Assy.)
② Failure in the periphery of IC3101 (Failure in the periphery of AUDIO ADC for input audio.)
③ Failure in the periphery of IC3201 (Failure in the periphery of AUDIO DAC for output audio.)
No
Yes
Video recording and playback by HDD
Can the video recording and playback of HDD?
No
① Failure in the periphery of CN5604 (Poor contact with the HDD.)
② To the HDD check mode
No
Yes
Video recording and playback by DVD
Does the tray open?
No
① Failure in the periphery of CN601 (Poor contact with the FRONT Assy.)
② Failure in the periphery of IC501 (Failure in the periphery of the Driver IC.)
Yes
Insert a disc and close the tray, then playback it
Do recognize a disc?
No
① Failure in the periphery of CN101 (Poor contact with the Pickup Assy.)
② Failure in the periphery of CN501 (Poor contact with the SPDL.)
③ Failure in the periphery of CN502 (Poor contact with the STEPPER.)
No
Yes
Do play back desired video and audio?
No
① Failure in the periphery of CN2301 (Poor contact with the TUSB Assy.)
② Failure in the periphery of IC3101 (Failure in the periphery of AUDIO ADC for input audio.)
③ Failure in the periphery of IC3201 (Failure in the periphery of AUDIO DAC for output audio.)
No
Yes
DVD recording
Can record desired video and audio?
No
Failure in the periphery of CN101 (Poor contact with the Pickup Assy.)
No
Yes
End
Failure in the periphery of IC1001 (There is possibility of failure of the EMMA2RFE chip.)

[1] Diagnosis of the HDMI Block

1. In a case when only the HDMI video is not outputted

*This flowchart shows how to confirm the output from the HDMI block on the basis that an external input signal to the L1 connector is through-output from the analog output connector properly.



Connect the unit to a DVI monitor that is provided with the HDCP function (HDMI-DVI conversion connector required), or to a monitor that supports HDMI.

Set the input setting to L1.
Input an external PAL signal to L1.

Is an image properly displayed?

Are the images output successively (does HDMI LED light up)?

Does it repeat correct output for a moment followed by black screen (or sandstorm)?

With the aid of an oscilloscope, check IC1001, IC5801 for the points listed below. (Only checking with a PAL signal is enough. Checking with an NTSC signal is not required):

- R5865 (HTX_CLK : 27 MHz/74.25 MHz/148.5 MHz @PAL)

From the following points, a 3.3-V swing signal must be output:

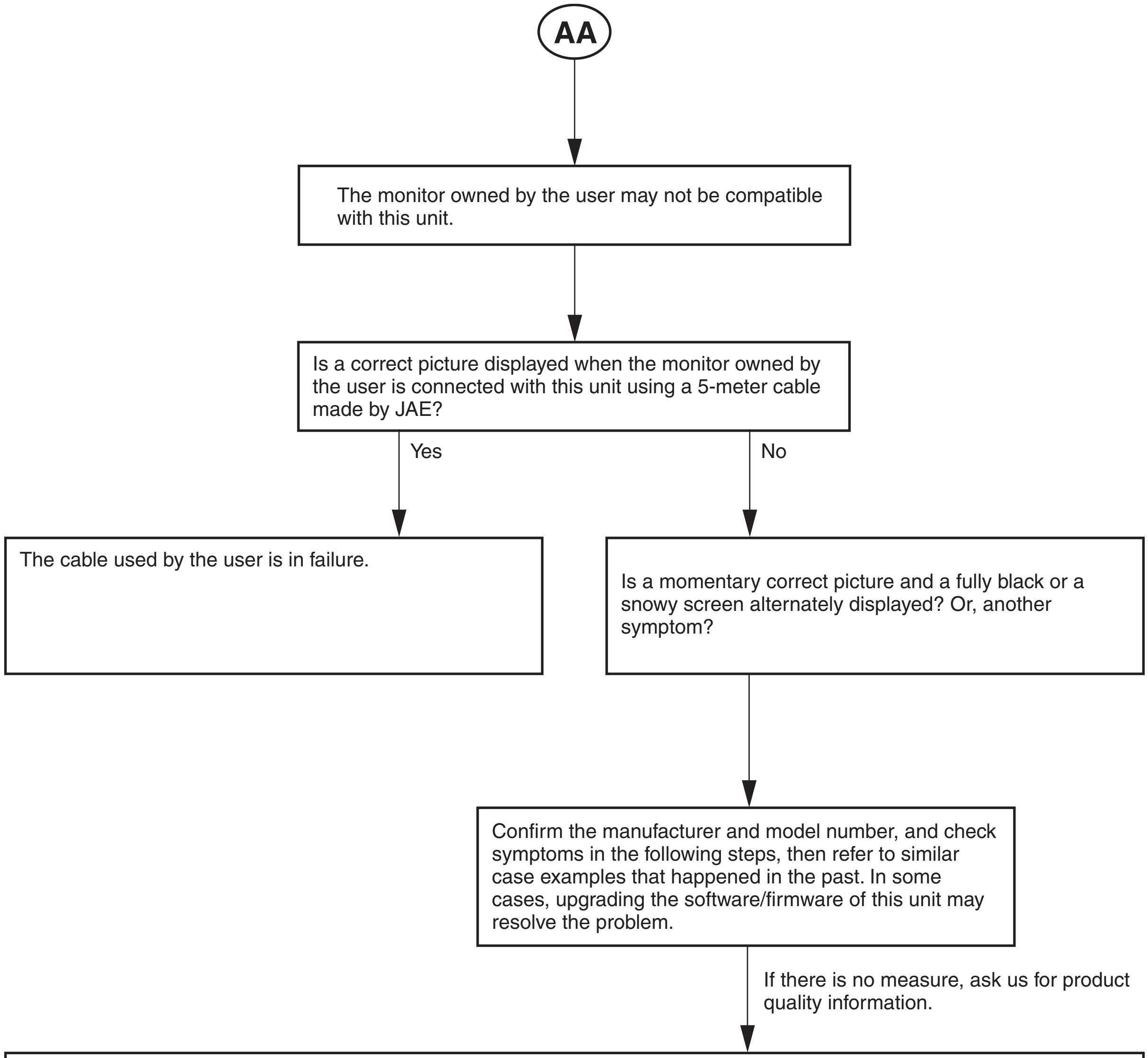
- R5855 (H sync)
- R5855 (V sync)
- R5826 to R5828 (Video lines)

Are all the signals mentioned above output?

Possible defect in EMMA2RFEX.

It is most likely that IC5801 and the subsequent parts are in failure. Check the soldering of the parts listed below:

- IC5801 itself
- L5801 to L5804, JA5801
- R5842 to R5845, C5815 to 5818



The monitor owned by the user may not be compatible with this unit.

Is a correct picture displayed when the monitor owned by the user is connected with this unit using a 5-meter cable made by JAE?

The cable used by the user is in failure.

Is a momentary correct picture and a fully black or a snowy screen alternately displayed? Or, another symptom?

Confirm the manufacturer and model number, and check symptoms in the following steps, then refer to similar case examples that happened in the past. In some cases, upgrading the software/firmware of this unit may resolve the problem.

If there is no measure, ask us for product quality information.

① Does the symptom change when the HDMI cable between the monitor and recorder is disconnected then reconnected?

② With the HDMI cable between the monitor and this unit connected, if the power to the monitor is turned off then back on again, does the symptom change?

③ Turn off the power to both the recorder and monitor. Then, turn on the monitor, then after 30 seconds, turn on the recorder. Does the symptom change?

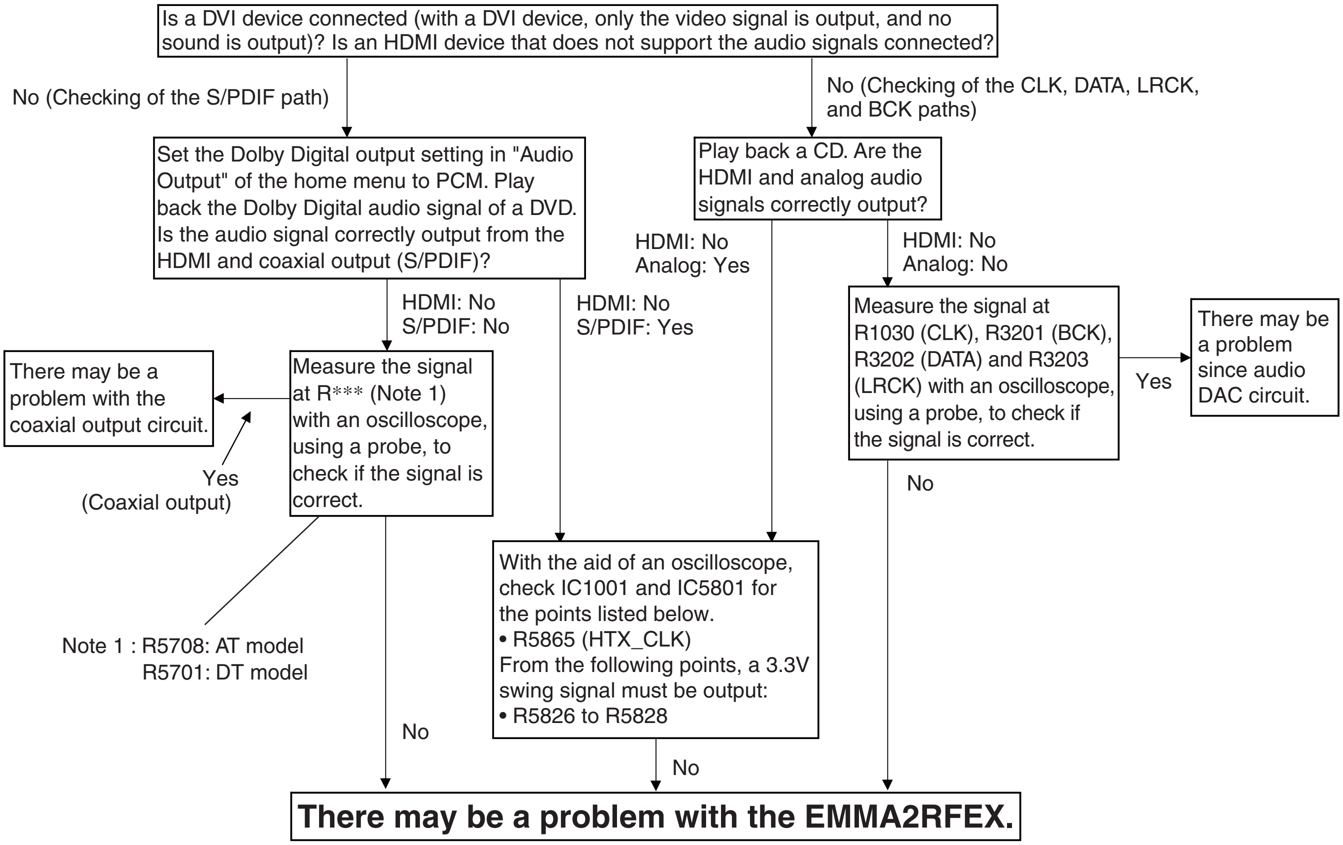
④ Is the HDMI LED lit, unlit, or flashing?

⑤ What is the picture on the screen like? A fully black, snowy, combination of the both, or other (a fully green or pink screen)?

⑥ Does the symptom change if the length of the cable (made by JAE) is different?

⑦ Are some spots missing by dots (missing pixels) on the screen? If so, there may be problems in the length or quality of the cable or the reception capacity of the monitor. Check if the symptom disappears when a 5-meter or less cable made by JAE is used.

2. In a case when only the HDMI audio is not outputted


Is a DVI device connected (with a DVI device, only the video signal is output, and no sound is output)? Is an HDMI device that does not support the audio signals connected?

Set the Dolby Digital output setting in "Audio Output" of the home menu to PCM. Play back the Dolby Digital audio signal of a DVD. Is the audio signal correctly output from the HDMI and coaxial output (S/PDIF)?

Play back a CD. Are the HDMI and analog audio signals correctly output?

Measure the signal at R*** (Note 1) with an oscilloscope, using a probe, to check if the signal is correct.

There may be a problem with the coaxial output circuit.

Measure the signal at R1030 (CLK), R3201 (BCK), R3202 (DATA) and R3203 (LRCK) with an oscilloscope, using a probe, to check if the signal is correct.

There may be a problem since audio DAC circuit.

With the aid of an oscilloscope, check IC1001 and IC5801 for the points listed below.
- R5865 (HTX_CLK)

From the following points, a 3.3V swing signal must be output:
- R5826 to R5828

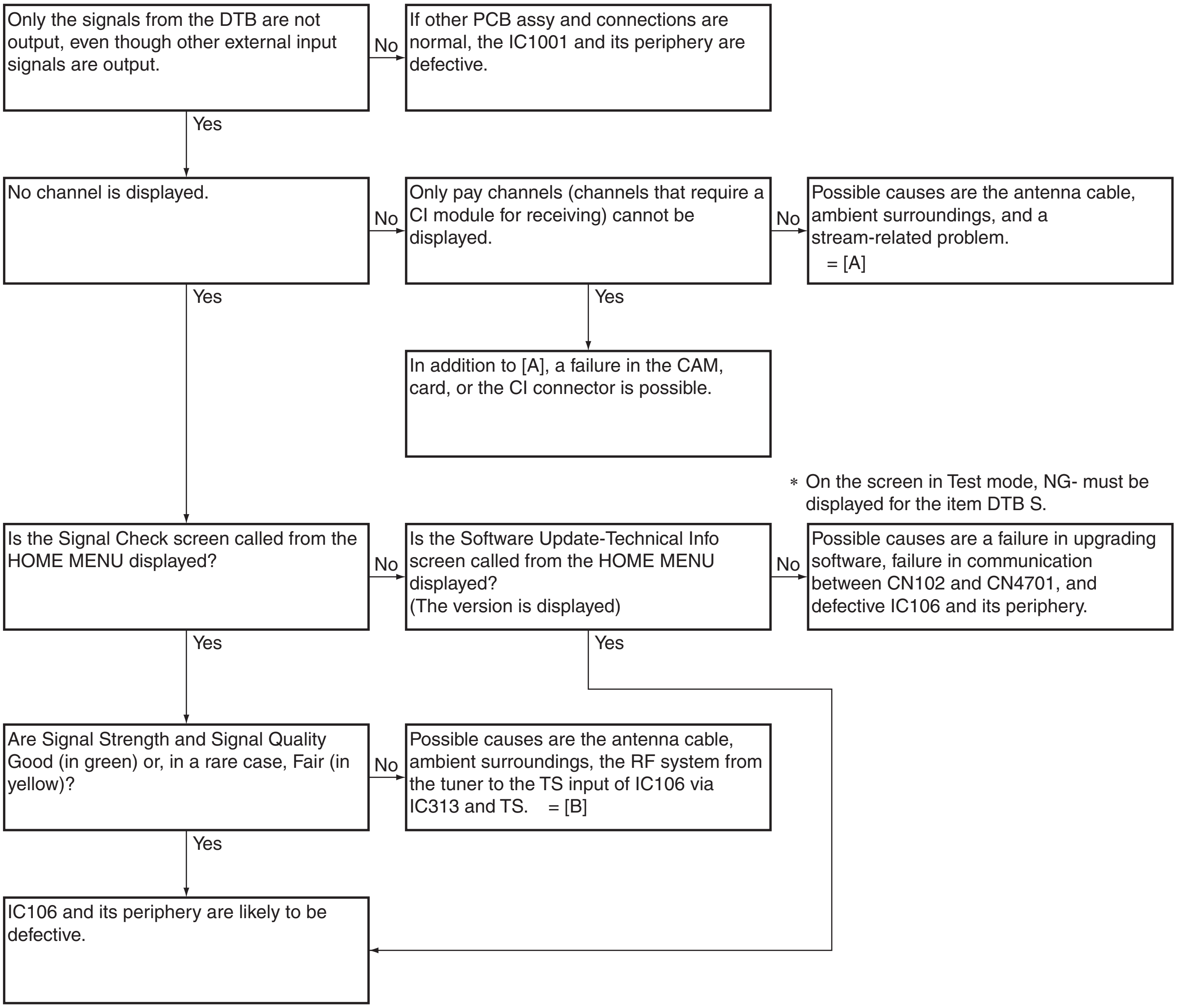
Note 1 : R5708: AT model
R5701: DT model

There may be a problem with the EMMA2RFEX.

No (Checking of the S/PDIF path)
No (Checking of the CLK, DATA, LRCK, and BCK paths)
HDMI: No
Analog: Yes
HDMI: No
Analog: No
HDMI: No
S/PDIF: No
HDMI: No
S/PDIF: Yes
Yes
(Coaxial output)
Yes
No
No
No

5.3 DIAGNOSIS OF THE DTBR ASSY

1. The DTB (Digital Terrestrial Block) does not function



Only the signals from the DTB are not output, even though other external input signals are output.

If other PCB assy and connections are normal, the IC1001 and its periphery are defective.

No channel is displayed.

Only pay channels (channels that require a CI module for receiving) cannot be displayed.

Possible causes are the antenna cable, ambient surroundings, and a stream-related problem. = [A]

In addition to [A], a failure in the CAM, card, or the CI connector is possible.

∗ On the screen in Test mode, NG- must be displayed for the item DTB S.

Is the Signal Check screen called from the HOME MENU displayed?

Is the Software Update-Technical Info screen called from the HOME MENU displayed? (The version is displayed)

Possible causes are a failure in upgrading software, failure in communication between CN102 and CN4701, and defective IC106 and its periphery.

Are Signal Strength and Signal Quality Good (in green) or, in a rare case, Fair (in yellow)?

Possible causes are the antenna cable, ambient surroundings, the RF system from the tuner to the TS input of IC106 via IC313 and TS. = [B]

IC106 and its periphery are likely to be defective.

- Except when the local regulator is in failure, a power failure (blown a fuse, etc.) makes other input systems abnormal.
- If mosaic images are often displayed, check the items in [B].

6. SERVICE MODE

◆ Overview and Purposes

To be used to check the status of the product and to collect the information for failure diagnosis.
The following information to be used for servicing is displayed:

- [1] First screen : Version, HDD information, etc.
- [2] Second screen : ATA/ATAPI debug screen (Writer information)
- [4] Fourth screen : VR-recording-related error logs
- [5] Fifth screen : VR-playback-related error logs

Each screen has sublevel screens.

[Note] After entering any Service mode screen, to shift to another Service mode screen, first quit that Service mode screen then enter another Service mode screen.

◆ Service Mode Map

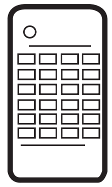
Category	Mode	Procedure	Necessary When
Adjustment	Model Setting	Automatically start up when necessary	After replacing M/B or T/B
Adjustment	LD Power Adjustment	[ESC] + [CX] + [1] + [0]	After replacing M/B or Loader
Adjustment	CPRM ID Number/Data Setting	[ESC] + [STEREO]	After replacing M/B or HDD
Adjustment	Firmware Update	[REC STOP] + [OPEN/CLOSE]	After replacing M/B or T/B
Adjustment	Gracenote Database Update	[REC STOP] + [OPEN/CLOSE]	After replacing HDD
Adjustment	Video Adjustment for Specific Area	[ESC] + [CHP/TIM]	As needed
Adjustment	OSD Filter Setting	[ESC] + [DISP] + [DIG/ANA] x4	As needed
Diagnosis	Version Info, etc.	[ESC] + [DISP]	
Diagnosis	RF Level	[ESC] + [DISP] + [DIG/ANA]	
Diagnosis	Error Rate	[ESC] + [DISP] + [DIG/ANA] x2	
Diagnosis	HDD Info	[ESC] + [DISP] + [DIG/ANA] x3	
Diagnosis	Writer Maintenance Info	[ESC] + [DISP] + [2] + [DIG/ANA] x2 + [SEARCH]	
Diagnosis	LD Degradation Check	[ESC] + [DISP] + [2] + [DIG/ANA] x3 + [SEARCH]	
Diagnosis	DV Info	[ESC] + [DISP] + [3]	
Diagnosis	VR Recording Error Log	[ESC] + [DISP] + [4] + [DIG/ANA] x3	
Diagnosis	VR Playback Error Log	[ESC] + [DISP] + [5] + [DIG/ANA]	
Diagnosis	EPG Info	[ESC] + [DISP] + [7]	Europe model only
Diagnosis	AAC Info	[ESC] + [DISP] + [+10] + [1]	
Diagnosis	HDMI Info	[ESC] + [DISP] + [+10] x2 + [4]	
Diagnosis	Ethernet Info	[ESC] + [DISP] + [+10] x2 + [7]	
Diagnosis	HDD Check	[ESC] + [CX] + [0] + [1]	
Diagnosis	USB Check	[ESC] + <TIMER/REC>	
Diagnosis	DVD Aging Mode	<DVD> + [ESC] + [REP.B] + [PLAY]	
Diagnosis	HDD Aging Mode	<HDD> + [ESC] + [REP.B] + [PLAY]	

6.1 VERSION INFORMATION, ETC. (FIRST SCREEN)

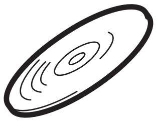
[Purposes]

To check the versions of the system control computer, TUNER microcomputer, and firmware for the drive, simple measurement of the RF level for the U/V tuner, results of the simple error rate measurement, HDD information, and OSD Filter setting

[Tools to be used]



Remote control unit for servicing
(GGF1381)



Aluminum-coated test disc
(GGV1025)

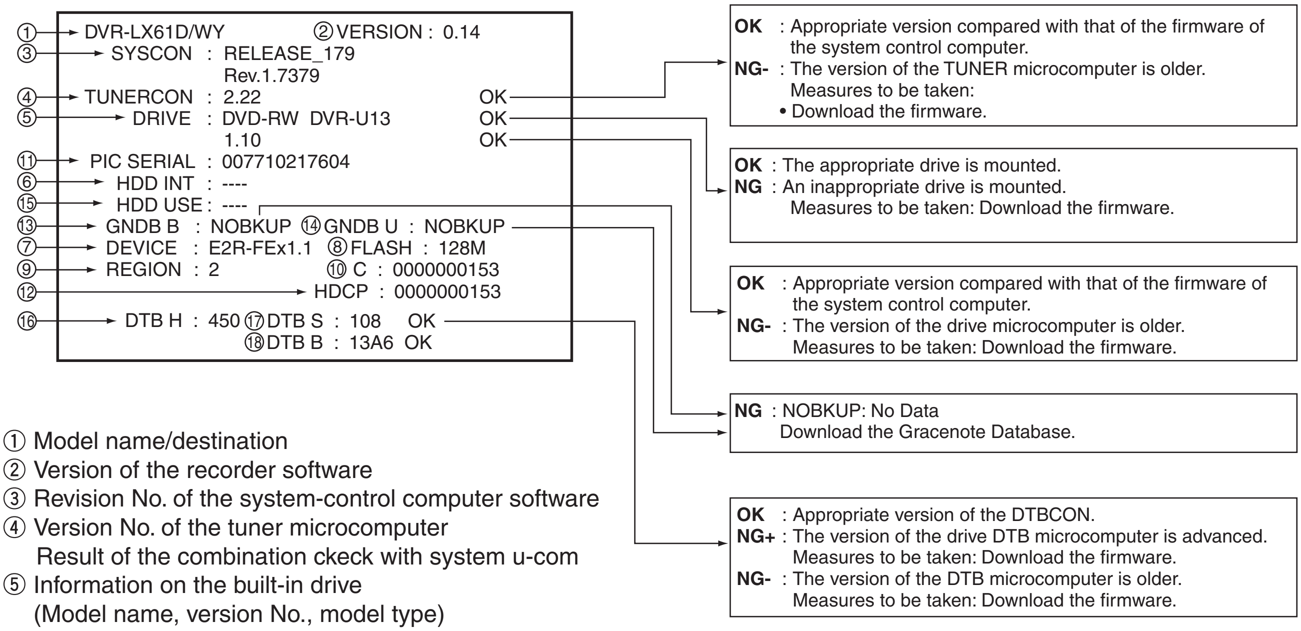
[How to enter] While the GUI screen is not displayed, press the ESC then DISP keys.

How to enter and change subscreens of the first screen: While the first screen is displayed, press the DIG/ANA key repeatedly until your desired subscreen is displayed. The subscreens change cyclically.

[How to quit] Press the ESC key.

[Description]

(1) First screen



```
① DVR-LX61D/WY              ② VERSION :  0.14
③     SYSCON  :  RELEASE_179
                 Rev.1.7379
④ TUNERCON  :  2.22                      OK
⑤       DRIVE  :  DVD-RW  DVR-U13         OK
                 1.10                     OK
⑪  PIC SERIAL  :  007710217604
⑥      HDD INT  :  ----
⑮      HDD USE :  ----
⑬    GNDB B   :  NOBKUP ⑭ GNDB U  :  NOBKUP
⑦    DEVICE   :  E2R-FEx1.1  ⑧ FLASH  :  128M
⑨    REGION   :  2          ⑩ C  :  0000000153
⑫                           HDCP  :  0000000153
⑯      DTB H  :  450 ⑰ DTB S  :  108     OK
                      ⑱ DTB B  :  13A6  OK
```

OK : Appropriate version compared with that of the firmware of the system control computer.
NG- : The version of the TUNER microcomputer is older.
Measures to be taken:
• Download the firmware.

OK : The appropriate drive is mounted.
NG : An inappropriate drive is mounted.
Measures to be taken: Download the firmware.

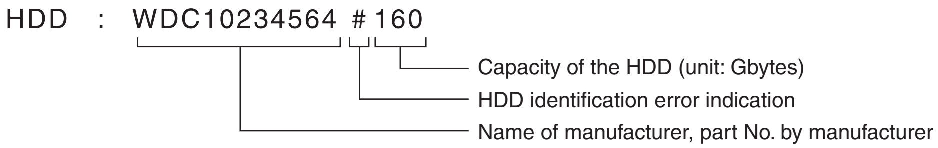
OK : Appropriate version compared with that of the firmware of the system control computer.
NG- : The version of the drive microcomputer is older.
Measures to be taken: Download the firmware.

NG : NOBKUP: No Data
Download the Gracenote Database.

OK : Appropriate version of the DTBCON.
NG+ : The version of the drive DTB microcomputer is advanced.
Measures to be taken: Download the firmware.
NG- : The version of the DTB microcomputer is older.
Measures to be taken: Download the firmware.

① Model name/destination
② Version of the recorder software
③ Revision No. of the system-control computer software
④ Version No. of the tuner microcomputer
Result of the combination ckeck with system u-com
⑤ Information on the built-in drive
(Model name, version No., model type)
⑥ Physical capacity of the HDD
⑦ DEVICE information (EMMA type, ES No.)
⑧ FLASH ROM information
⑨ Region No.
⑩ CPRM information (CPRM key No.)
⑪ PICUP SERIAL No.
⑫ HDCP information (HDMI authentication key)
Same number as that for CPRM.
⑬ Gracenote Database information
⑭ Gracenote Database Update information
⑮ Operating capacity of the HDD
⑯ DTB hardware information (Version)
08EU : 450
⑰ DTB u-com information (Version)
⑱ DTB software information (Check Sum)

• Details on HDD data are described below:


HDD : WDC10234564 #160
Capacity of the HDD (unit: Gbytes)
HDD identification error indication
Name of manufacturer, part No. by manufacturer

If any abnormality exists in HDD connection, the indications shown in Table 1 below are displayed.

Table 1: HDD recognition status represented by the HDD data display

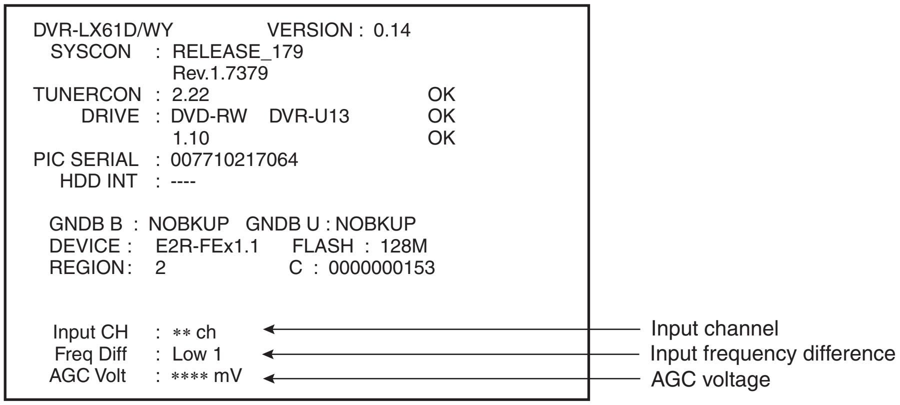
HDD identification conditions	Example of HDD data to be displayed	Remarks
Failure in physical identification of HDD (no connection, defective HDD, interface error)	Blank space	• Check the connection to the SATA connector. • Replace the SATA flexible cable and connector. • Replace the HDD. • Replace the resistor in the SATA communication line.
Physical identification of HDD possible, but not identified (CPRM ID is not input.)	WDC 10234564 # 160	• Input the CPRM ID.
Physical identification of HDD possible, HDD identified, but failure in logical formatting	WDC 10234564 ! 160	"!" represents an HDD-recognition error. • Initialize the HDD or erase all titles.
Physical identification of HDD possible, HDD identified, and correct logical formatting (HDD correctly identified)	WDC 10234564 160	

If an error indication in the HDD data does not disappear even after the above measures were taken, refer to another sheet of "HDD Service Mode."

[1] Simple Diagnosis of the RF Level (Subscreen 1)

[Purposes]	To check the RF signal of the U/V tuner by checking the input frequency difference and AGC voltage in this debug mode
[How to enter]	While the User Setting display is displayed, press the ESC, DISP, then DIG/ANA keys, in that order.
[How to quit]	Press the ESC key.

[Description]



```
DVR-LX61D/WY            VERSION :  0.14
  SYSCON   :  RELEASE_179
              Rev.1.7379
TUNERCON   :  2.22                     OK
     DRIVE :  DVD-RW   DVR-U13         OK
              1.10                     OK
PIC SERIAL :  007710217064
   HDD INT :  ----

   GNDB B  :  NOBKUP   GNDB U : NOBKUP
   DEVICE  :   E2R-FEx1.1    FLASH  :  128M
   REGION  :   2             C  :  0000000153


   Input CH    :  ** ch
   Freq Diff   :  Low 1
   AGC Volt    :  **** mV
```

Input channel
Input frequency difference
AGC voltage

Subscreen 1

1) Frequency Difference (Freq Diff)

How much tuning is off is monitored, as shown below:

Input Frequency		Display
Faraway		High 7
High (within 200kHz)		High 1~5
Just Tune		Center
Low	within 200kHz	Low 1~5
	over 200kHz	Low 7

2) AGC voltage (AGC Volt)

The gain controlled by the tuner is monitored to infer the input electric field intensity.
(The accuracy of inference differs depending on the product.)

	Field Intensity	**AGC VOL**
Intense field area (Clear image)	70 dBμ or more	3100 mV or less
Less intense field area (Noise may be generated.)	50 dBμ or more 70 dBμ or less	3100 - 4400mV
Weak field area (Much noise. EPG/VPS/PDC sometimes cannot be obtained.)	30 dBμ or more 50 dBμ or less	4400 mV or more (It is unable to discriminate under the weak field area.)
Very weak field area (Image damaged. EPG/VPS/PDC cannot be obtained.)	30 dBμ or less	4400 mV or more (It is unable to discriminate.)

Tips:

For good reception, the field intensity must be 50 dBμ or more (AGC Volt 4400 mV or less).
For accurate measurement, use a field intensity meter.

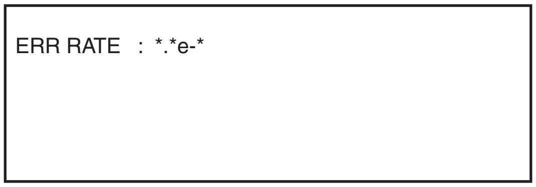
[2] Simple Error Rate Measurement (Subscreen 2)

[How to enter]
- While the User Operation screen is displayed, press the ESC then DISP keys, then the DIG/ANA key twice, in that order.
- While subscreen 1 of the first screen is displayed, press the DIG/ANA key.

[How to quit] Press the ESC key.

[Measurement procedures]

① Display subscreen 2.
② Load the Test disc (GGV1025).
③ Judge the results of the error rate measurement by referring to Table 1.



ERR RATE : *.*e-*

Subscreen 2

[Tips]

During VR mode playback, the average value of the past 10 VOBUs is displayed. During DVD-Video or Video mode playback, the average value of the past 256 sectors is displayed.
During VR mode playback, the speed ratio of the drive (/: normal, no indication: double speed) is also displayed.

Table 1: Thresholds when determining OK or Error

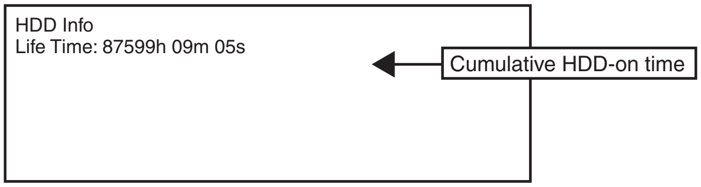
Disc type	Recording mode	Finalized or not finalized	Reference value
DVD-VIDEO	-	-	8.0×10^{-4}
DVD-R	Video mode	Finalized	3.3×10^{-3}
		Not finalized	3.3×10^{-3}
DVD-RW	Video mode	Finalized	3.3×10^{-3}
		Not finalized	3.3×10^{-3}

[3] HDD Information (Subscreen 3)

[How to enter]
- While the User Operation screen is displayed, press the ESC then DISP keys, then the DIG/ANA key three times, in that order.
- While subscreen 2 of the first screen is displayed, press the DIG/ANA key.

[How to quit] Press the ESC key.

[Mode description]


HDD Info
Life Time: 87599h 09m 05s

Subscreen 3

[Tips]

- **How the data on cumulative HDD-on time are processed in memory**
  Storage place:
  FLASH ROM

  Timing of referring to the data on cumulative HDD-on time:
  When the power is turned on, fails, the FLASH ROM is referred to.

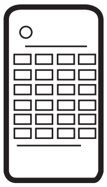
  Timing of updating the data on cumulative HDD-on time:
  While the HDD is on, the data on cumulative HDD-on time in the RAM is updated every 3 seconds, and every time updating is executed the data are stored in the Backup SRAM. When the power is turned off, the data are stored in the FLASH ROM.

- **How to clear the data on cumulative HDD-on time**
  FLASH ROM:
  When the HDD Identification Setting is performed, the data on cumulative HDD-on time are automatically cleared. The HDD Identification Setting is automatically performed when the CPRM setting is performed on the CPRM setting screen (to display the CPRM setting screen, press the ESC then the STEREO keys).
  Notes: • The data on cumulative HDD-on time are not cleared when resetting to factory-preset values is performed.
  • The data on cumulative HDD-on time are not cleared when the system-control computer software is downloaded.

[4] OSD Filter Setting (Subscreen 4)

[Purpose] Depending on the monitor used, the character flicker on the OSD may stand out.
If a system, such as character flicker, appears on the monitor, select the filter response.

[Tools to be used]



Remote control unit for servicing
(GGF1381)

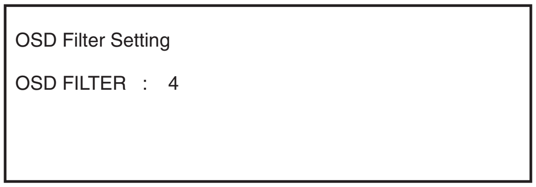
[How to enter]

- While the User Operation screen is displayed, press the ESC then DISP keys, then the DIG/ANA key four times, in that order.
- While subscreen 3 of the first screen is displayed, press the DIG/ANA key.

[How to quit] Press the ESC key.

[Setting procedures]

① Display subscreen 4.
② Select the setting from the key operation table.



OSD Filter Setting

OSD FILTER : 4

Subscreen 4

[Tips]

As the setting value becomes greater, jitter is reduced on a CRT display. However, as lines for characters appear thick, complex characters may become difficult to read. On the contrary, as the setting value becomes smaller, jitter increases on a CRT display. However, as lines for characters become sharper, complex characters become more legible.

Note: Use the remote control unit for servicing.
Note: A new setting becomes active as soon as it is made. As a new setting is stored in nonvolatile memory, it will be retrieved when the unit it turned on the next time.
Note: After the factory-preset values are downloaded, the setting value for the OSD Filter will be the default value (4).

[(Table 2) Key operation of OSD Filter setting]

Key	Operation	Setting value	Remarks
[Rev x 3], [SPEED+] [x 3 Fwd], [SPEED-]	Changing the setting value for the OSD Filter	0 - 4 (Default value: 4)	[Rev x 3], [SPEED+] : The setting value increases by 1. [x 3 Fwd], [SPEED-] : The setting value decreases by 1.
[CLEAR]	The setting value is reset to default.	–	
[ESC]	To exit the OSD Filter Setting and clear the screen (Appears the tuner screen.)	–	–

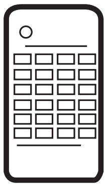
6.2 ATA/ATAPI DEBUG SCREEN (SECOND SCREEN)

[Purposes]

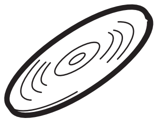
To be used as a rough guide to judge whether the pickup unit is all right or not

- Dirt on the pickup lens
- Degradation of the laser diodes for reading CDs and reading/writing to/from DVDs

[Tools to be used]



Remote control unit for servicing (GGF1381)



Aluminum-coated test disc (GGV1025)

[How to enter]

- While the User Operation display is displayed, press the ESC, DISP, then 2 keys, in that order.
- While any subscreen of the second screen is displayed, press the DIG/ANA key repeatedly. The subscreens change cyclically.

[How to quit] Press the ESC key.

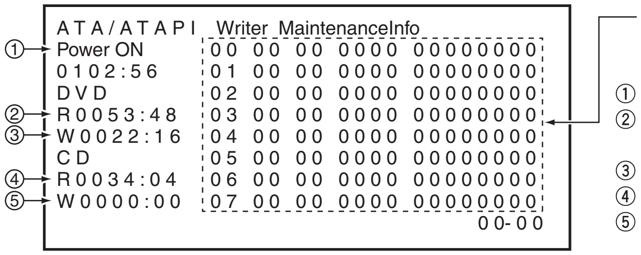
[1] Writer Maintenance Information of ATA/ATAPI DEBUG OSD (Subscreen 3)

[How to enter]

- While the User Operation screen is displayed, press the ESC, DISP then 2 keys, then the DIG/ANA key twice, in that order.

[How to quit] Press the ESC key.

[Procedures] Update the display by pressing the SEARCH key while subscreen 3 is displayed.



```
ATA/ATAPI  Writer MaintenanceInfo
Power ON   00 00 00 0000 00000000
0102:56    01 00 00 0000 00000000
DVD        02 00 00 0000 00000000
R0053:48   03 00 00 0000 00000000
W0022:16   04 00 00 0000 00000000
CD         05 00 00 0000 00000000
R0034:04   06 00 00 0000 00000000
W0000:00   07 00 00 0000 00000000
                            00-00
```

Error log for the Writer
(Not for Service)

① Power-on time/cumulative power-on time
② Duration of emission of the laser diode (LD) for DVD-R/DVD while reading
③ Duration of emission of the LD for DVD-W/DVD while writing
④ Duration of emission of the LD for CD-R/CD while reading
⑤ Duration of emission of the LD for CD-W/CD while writing (This function is not used for this model.)

② If the total hours of duration of emission of the laser diode (LD) for DVDs while reading ② and that of emission of the LD for DVDs while writing ③ exceed 4,700 hours, the LDs may be degraded. Perform an LD degradation judgment, using subscreen 4.

[Tips]

MTTF hours for each LD
DVD: 4,700 hours
CD: 11,000 hours

The ATA/ATAPI Writer Maintenance Info is obtained each time the power is turned on. Thereafter, the data on the subscreen is updated each time the SEARCH key is pressed (the updating command is sent) while this subscreen is displayed. Care must be taken when updating this subscreen, because an undesired command is inserted if it is executed while recording, etc.

[Note on lighting time data for each LD]

Since data on lighting time of each laser diode (LD) are stored in the flash ROM on the MAIN Assy, after the MAIN Assy is replaced, the data will be cleared. However, after the LOADER Assy is replaced, data on lighting time of each LD will be retained in the MAIN Assy. Therefore, before either the MAIN Assy or LOADER Assy is to be replaced, it is recommended that you write down the lighting time data.

[2] LD Degration Judgment of ATA/ATAPI DEBUG OSD (Subscreen 4)

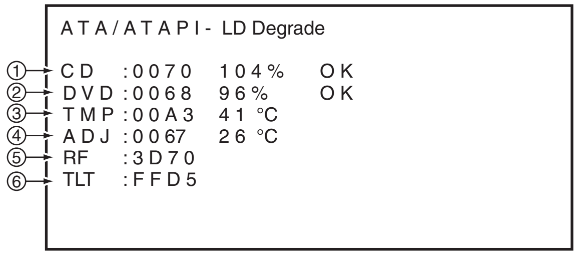
[How to enter] • While the User Operation screen is displayed, press the ESC, DISP then 2 keys, then the DIG/ANA key three times, in that order.

[How to quit] Press the ESC key.

[Notes]

- For correct measurement of items ① to ④ indicated in the display below, leave the unit at room temperature (25˚C) for a while before turning it on, and do not load a disc.
- For RF measurement (item ⑤), it is recommended to use the Test disc (GGV1025).
  As the RF level differs depending on the characteristics of the pickup from product to product, it cannot be used for judging degradation of the LD. Use the RF level as a rough guide to know the difference between before and after lens cleaning.

[Procedures] To update the value for each item, press the SEARCH key while subscreen 4 is displayed.
For details on each item and the conditions of updating the values, see Table 2 below.



```
ATA/ATAPI- LD Degrade

CD  :0070  104%  OK
DVD :0068   96%  OK
TMP :00A3  41 °C
ADJ :0067  26 °C
RF  :3D70
TLT :FFD5
```

Table 2: Description of each item and conditions for updating data

No.	Item	Description	Conditions for updating by pressing the SEARCH key
①	CD	Degradation judgment of LD for CD. Regarded as NG when the value is 120% or higher (same standard as for the PC drive)	No disc inserted in the disc tray
②	DVD	Degradation judgment of LD for DVD. Regarded as NG when the value is 120% or higher (same standard as for the PC drive)	No disc inserted in the disc tray
③	TMP	Current temperature inside the Writer	No disc inserted in the disc tray
④	ADJ	Temperature (approx. 25°C) inside the Writer during adjustment	No disc inserted in the disc tray
⑤	RF	RF level (16-bit data, proportional calculation performed using the actual RF level value with 2.5 V = 0xFFFF as the maximum value, displayed in 4-digit hexadecimal)	During playback of disc medium (GGV1025)
⑥	TLT	Writer adjustment data for straight (non-HDD) model (FFFF is diplayed when the writer is not adjusted.)	No condition

If the results of degradation of the LDs for CDs or DVDs are NG, replace the drive.

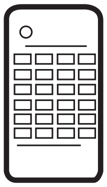
6.3 VR-RECORDING-RELATED ERROR LOGS (FOURTH SCREEN)

[Purposes]

To roughly determine in which category shown below a symptom that is difficult to reproduce belongs.
For details on the categories of error logs displayed, see "Table 1: Description of VR-recording-related errors."

- Errors related to the MPEG Encoder
- Errors related to the drive system
- Errors related to copying
- Errors related to others
- Errors related to the HDD

[Tool to be used]



Remote control unit for servicing
(GGF1381)

[How to enter]

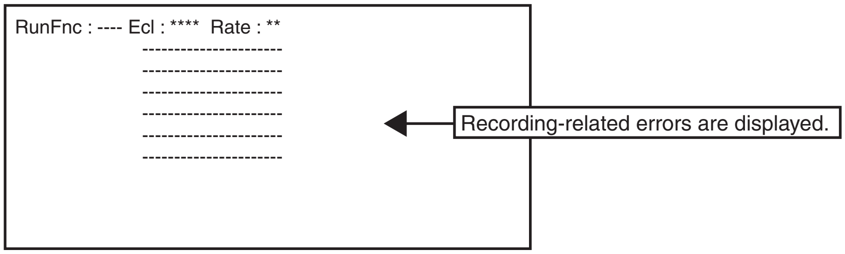
- While the User Operation display is displayed, press the ESC, DISP, then 4 keys, in that order.
- While any subscreen of the fourth screen is displayed, press the DIG/ANA key repeatedly.
  The subscreens change cyclically.

[How to quit] Press the ESC key.

[Description of each subscreen]

(1) VR-Recording-Related Error Logs (Subscreen 1)

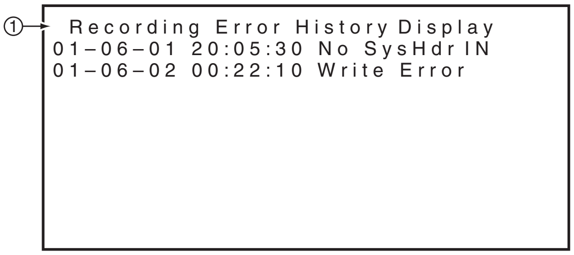
- Errors related to recording are displayed on the lines "Rec Err:," as shown below.
  For details on errors, see "Table 1: Description of VR-recording-related errors."



```
RunFnc : ---- Ecl : ****  Rate : **
                    ---------------------
                    ---------------------
                    ---------------------
                    ---------------------
                    ---------------------
                    ---------------------
```

(2) Subscreen 2 and 3 (These subscreens are not for service use.)

(3) VR-Recording-Related Error Logs (Subscreen 4)



```
 Recording Error History Display
01-06-01 20:05:30 No SysHdrIN
01-06-02 00:22:10 Write Error
```

① There are two error-log screens, on which up to 9 logs per screen are displayed.
(generation time [year-month-day, hour:minute:second], error data in simplified description)

[Tips]

- The two error-log screens can be switched by pressing the SPEED+ or SPEED- key.
- For details on error messages, see Table 1 "Description of VR-recording-related errors".

(4) Subscreen 5 to 12 (These subscreens are not for service use.)

[1] Description of VR-Recording-Related Errors

Any error message marked with * is displayed "RecErr : ---------" on the Subscreen 1 of the fourth screen.

● Error Related to MPEG Encoder

Error Message	Description	Cause
AVEnc Hang	AVEncoder failed	Defective engine or software-related problem
IN Encode *	Changes cannot be made in the process of encoding	
No SysHdr IN	System packet is not input periodically	Defective engine or software-related problem
Stm Start NG	Failure to start encoding (reasons not clear)	Defective engine or software-related problem
Stream NG	Inappropriate input stream data	Defective engine or software-related problem
Strm Start NG	Timeout waiting for system packet input at the beginning	Defective engine or software-related problem

● Error Related to Drive System

In a case of an error in the drive system, scratches or dirt on a disc, or a problem of the drive itself (dirty pickup) may be suspected.

Error Message	Description	Cause
Bdr Cls NG	Close Border failed	Defective disc
Bdr Opn NG	Open Border failed	Defective disc
BUF Overflow	Overflow of the Stream Buffer	Software-related problem
CLS Rzon Fail	Video Mode Close Rzone failure	Defective disc
Drive Hang	The Drive is hung up.	Defective disc or drive
Drv Err	General error of the drive	Defective disc or drive
Drv Hard Err	Abnormality in the drive hardware or firmware	Defective disc or drive
Drv TimeOut	Timeout waiting for drive operation	Defective disc or drive
Fail Repair	Repair failed	
Format NG	Format failed	Defective disc
May Be V mode	Although TMP_VMGI is not written, it may be Video Mode disc.	
Mech No Res	No response from the mechanical-control computer	Defective disc or drive
MKB Invalid	MKB reading error	Defective disc
NWA Exhaust	NWA surpassed and impossible to use	Defective disc
OPC NG	OPC failed	Defective disc
PCA Full	PCA has been used up.	
Read Err	Reading failed, ECC failed, etc.	Defective disc
ReadOnly DISC *	Because some data are invalid, data cannot be written	
RMA Full	RMA has been used up.	
Rzn Cls NG	Close RZone failed	Defective disc
Rzn Rpr NG	Repair RZone failed	Defective disc
Rzn Rsv NG	Reserve RZone failed	Defective disc
TMP-VMG WrErr	Video Mode TMP VMGI Write Error	Defective disc
VTSI_B Wr Err	Video Mode VTSI BUP Write Error	Defective disc
VTSI_B2 Wr Err	Video Mode VTSI BUP Write Error (After Layer Change)	Defective disc
VTSI Wr Err	Video Mode VTSI Write Error	Defective disc
VTSI2 Wr Err	Video Mode VTSI Write Error (After Layer Change)	Defective disc
Write Err	The Drive failed to write and could not be recovered.	Defective disc
May Be PVR	May be +VR disc, but no RSAT	
V Final fail	Abnormal process occurred when finalizing Video mode	Software-related problem
DLVR trace NG	Close Rzone failed at dual layer disc	Defective disc

RSAT : Reserved Space Allocation Table

● Error Related to Dubbing

Error Message	Description	Cause
H2D CP SomeNG	Other NG HDD -> DVD copy	
Mem get NG	Video Mode Copy Memory has not ensured.	
Strm TransfNG	Video Mode Copy Stream Transfer NG	
Tracon Trn NG	Video Mode Copy Tracon transfer has not been completed.	
VC Cell Max	Maximum number for Video Mode copy Cells exceeded	
VC CopyCancel	Video Mode Copy Copy Cancel	
VC FlushC NG	Video Mode Copy Flush Cache NG	
VC HDD C Err	Obtaining Video Mode Copy HDD Cell information failed	
VC HDD Inf NG	No information on Video Mode Copy HDD	
VC HDD Info NG	Format failed	
VC Idling NG	Video Mode Copy idling NG	
VC Pck Anl NG	Analizing Video Mode Copy Pack failed	

● Error Related to Dubbing (Continued)

Error Message	Description	Cause
VC Transf Stp	Video Mode Copy Transfer Stop	
VC TSO BLK NG	Video Mode Copy TSO Block transfer has not been completed.	
VC VOBU SizeE	Video Mode Copy VOBU Size NG	
V Rsv RzoneNG	Video Mode Copy Reserve Rzone failed	Defective disc
V2H APP FL NG	VR → HDD APP FLG is OFF	
V2H Aud Ch NG	VR → HDD Audio Channel NG	
V2H Aud Md NG	VR → HDD Audio Mode NG	
V2H Aud Stm N	VR → HDD Audio Stream number NG	
V2H SRC Prot	VR → HDD copy prohibited material	
V2H Unknown	VR → HDD other NG	
V2H VOBU TMNG	VR → HDD Play back time of each VOBU is different	
V2H V Reso NG	VR → HDD Video resolution NG	
H2D CP NoSpac	HDD → DVD insufficient free space for copy	
H2D TO HDDRD	HDD → DVD (VR) TimeOut at HDD playing side	
H2D TO SPRO	HDD → DVD (VR) TimeOut at internal processing	
H2D TO DVDWR	HDD → DVD (VR) TimeOut at HDD recording side	
C2H LOG (XXX)	HDD CAM → HDD operation log (XXX is a process code.)	
C2H ERR (XXX)	HDD CAM → HDD NG (XXX is a process code.)	

● Other Errors

Error Message	Description	Cause
Abort *	Cancellation	
Already open	Extension file is already opened.	
BK BATT Down	Backup RAM data has been erased.	
BK FSYS Dirty	Backup RAM data has not been written on the File Sys.	
BUG	Some bugs	
BusReset Done	Bus Reset has been executed.	
Cell Close NG	Cell Close NG	
CPRM IC NG	Inappropriate CPRM IC	Defective engine
Dir Depth Err	Tree of Directory is too deep.	
Disc Full	No further data can be written because the disc is full.	
DRAM CLR Err	Video Mode DRAM (Stream Buffer) Clear failure	
DRAM NG	Abnormality in access to the Work DRAM	
Drive Destroy	The drive has crashed.	Defective engine, drive, or HDD
EncModul Hang	Encoder routine is hung up.	Defective engine or software-related problem
F Alrdy Exst	Extension file is already exist.	
File cancel	Extension file is canceled.	
FileNot Exist	Extension file is not exist.	
Format Excec	Formatting has been executed.	
Invalid Disc *	The disc cannot be recognized.	Problem in the logical structure of the disc
Invalid Param *	Invalid parameter	
Invalid TMVMG	Invalid TMP_VMGI content	Problem in the logical structure of the disc
Invalid UDF *	Invalid UDF content	Problem in the logical structure of the disc
Invalid VMG *	Invalid VMG content	Problem in the logical structure of the disc
Invalid VTSI	VTSI information of +VR is unusual.	Problem in the logical structure of the disc
Irr Action *	Incorrect action	
MKB REVOKED	Error in gaining data	
Limit Over *	Standard maximum limit exceeded	
No More Info *	No more space in the internal work-management area	Software-related problem
No Permission *	No permission to write to the disc	
No Video	No video input (not locked)	
Now Busy *	In the process of the emergency processing	
NV Pck DMA Er	Inappropriate NaviPack DMA	
NV Pck MK Err	Error in creating NaviPack	
Ourob Strm NG	Inappropriate stream data to the Ouroboros input	
Over Heat	Abnormal temperatute	
PARAM NO ACCP	Recording parameter is not matched.	
Process Over	Process is overfull.	
Protect Src *	Source to be recorded is copy-protected.	
Rec Pause *	No operation permitted during recording pause	
Relocation Do	VR-recording data was relocated	

● Other Errors (continued)

Error Message	Description	Cause
Repair Excec	Repairing has been executed.	
Something *	Undetermined error	
SRAM NG	Abnormality in access to the backup work SRAM	
Status NG *	Abnormality in change of statuses	
SW PVR	Switch to +VR playback process	
SW Vpb mode *	Switching to video playback routine is required.	
SW Vrec mode *	Switching to video recording routine is required.	
Unmatch Stamp *	Impossible to modify because of nonmatching time stamp	Problem in the logical structure of the disc
VBR-SRAM NG	Abnormality in VBR SRAM	
V Categ ID NG	Inappropriate Category ID	
V Cate Inf NG	Inappropriate Category information	
V Ext MAX Ovr	Count Max exceeded	
V ExtToo Big	The extension file is too large.	
V Ext TY NG	Type NG	
Virgin DISC	Virgin Disc	
VOBU Info NG	Inappropriate VOBU information	
WaterMark Det	Watermark detected	
WM Cracked	WM Cracked	
Param Short	Editing Error (Clear A-B)	
Invalid VRMI	Information of +VR is NG. (VRMI)	Problem in the logical structure of the disc
Heap Mem NG	Failure in securing the necessary amount of memory	Soft-related problem
Heap Mem RETY	Reattempting to secure the necessary amount of memory	

● Error Related to HDD

Error Message	Description	Cause
Do nothing	Do nothing for demand.	
ESFSYS CORUPT	easyfsys error	
ESFSYS INIT	easyfsys initializing	
HDD Buff High	High-level process executed for the HDD Buffer	
HDD DEF DONE	HDD deflag finished	
HDD DEF ERR	HDD deflag error	
HDD Destroy	HDD is not recognized on the bus.	Defective HDD, engine
HDD INFO BAD	Incorrect HDD Management Data	Defective HDD or software-related problem
HDD Initialize	HDD initialized	
HDD IRRG POFF	Abnormal power off	
HDD MBR NG	Inconsistent MBR data	Defective HDD
HDDReset Done	HDD Reset executed	
HDD ROMSUM NG	Rom-code check sum NG	
HDD SIG NG	Inconsistent HDD Management Data Magic	Defective HDD
HDD SMART NG	Inappropriate HDD SMART	Defective HDD
HDD Trans Err	DMA error in HDD copy transfer	
HDD unauthor	Inconsistent HDD serial No.	
HDD Zero WR	MBR was written	
Task No Activ	Task has not been activated.	
TT Rec Over	Title recording time full	
HDD WRONG TGT	Invalid HDD target No. is directed.	
extHDD Ignore	External HDD is dismounted.	
HDD PFile NG	Program file installed in HDD is NG.	
HDD DEL TT	Delete the title by HDD recovery.	
HDD DEL PL	Delete the dubbing list by HDD recovery.	
HDD DEL OC TT	Delete the title moving on the way inside HDD	
HDD Aging NG	Error generated in HDD Test mode	
HDD TFD INIT	Gracenote Database deleted	
HDD DWNLD NG	Error generated while Gracenote Database was being downloaded	
HDD TFD WR NG	File development of Gracenote Database failed.	
HDD TFD CL NG	File deletion of Gracenote Database failed.	
HDD TFD NON	Gracenote Database not downloaded	
HDD CDDB NG	Problem in Gracenote Database	
GN API NG	File operation of Gracenote Database failed.	

● No Error

Error Message	Description	
Non Err *	Normal	

Abbreviations:

ECC = 4 byte Code for Error Correction
UDF = Universal Disc Format
PCA = Power Calibration Area
OPC = Optimum Power Control
NWA = Next Writable Address

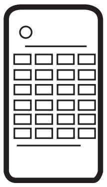
VMG = Video Manager
RMA = Recording Management Area
MKB = Media Key Block
TMP_VMGI = Temporary Video Manager Information
Border = from Lead-in to Lead-out
RSAT = Reserved Space Allocation Table

6.4 VR-PLAYBACK-RELATED ERROR LOGS (FIFTH SCREEN)

[Purposes]

It can be inferred that an operation that caused an error in the drive was performed or that a failure occurred in the drive if any of the error logs shown in "Table 2: Description of VR-playback-related errors" is recorded on this screen.

[Tool to be used]



Remote control unit for servicing
(GGF1381)

[How to enter]

- While the User Operation display is displayed, press the ESC, DISP, then 5 keys, in that order.
- While any subscreen of the fifth screen is displayed, press the DIG/ANA key repeatedly. The subscreens change cyclically.

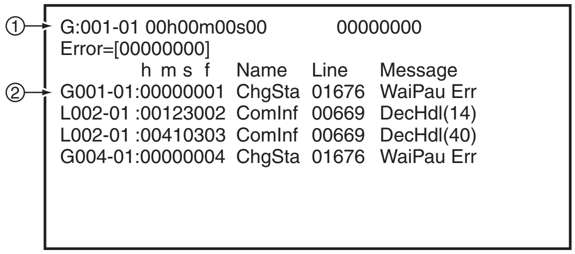
[How to quit] Press the ESC key.

[Description of each subscreen]

(1) Subscreen 1 (This subscreen is not for service use.)

(2) VR-Playback Error Logs (Subscreen 2)

- For details on error messages, see Table 2 "Description of VR-playback-related errors".
- If a VR-playback-related error is generated, a problem in data reading from the disc may be suspected. (The possibility of a problem on the drive side is high.)



```
G:001-01 00h00m00s00           00000000
Error=[00000000]
           h  m s  f    Name    Line    Message
G001-01:00000001  ChgSta  01676  WaiPau Err
L002-01 :00123002  ComInf  00669  DecHdl(14)
L002-01 :00410303  ComInf  00669  DecHdl(40)
G004-01:00000004  ChgSta  01676  WaiPau Err
```

① Information on display position
Original / Play list (G/L), Title No., Chapter No. [X:XXX-XX]
Display time (hour, minute, second & frame) [XXhXXmXXsXX]
Logic address for playback (ID) [XXXXXXXX]
Number of entries to error log [XXXXXXXX]

② Error message log
Original / Play list (G/L), Title No., Time of occurrence (min & sec) [XXX:XXXX]
Location of occurrence (this data is used for development), Name: Name of module where the error occurred, Line: Number of line where error occurred
Playback-system errors that occurred in 13 times of playback in past [XXX:XXXXXXX]
* For details of error information, refer to the Appendix Table 1.
* If information on errors which occurred on days earlier than the current day is contained on the screen, the information that follows the information which are displayed with "^" between “Time of occurrence”, “Name”, “Line” and “Message” indicates the errors that occurred on the current day.

[1] Description of VR-Playback-Related Errors

Error Message	Details of error
AudioPB Err	Audio initialization error
WaiPau Err	Pause was disabled though tried. (Pause-wait timeout)
CC_OS_ERR	CC output processing error
Tr:NullBlk	No valid data in the first block
Tr:NaviErr	Navigation pack error
Tr:ReadErr	Data read error
Dec:PicDisp	Not played up to final PTS
Dec:Size	horizontal/vertical_size in sequence header is 0 or above 720 × 576.
Dec:PicTyp	picture_coding_type in picture header is neither of the I, P, nor B picture type.
Dec:Struct	picture_structure in picture coding extension is neither top/bottom_field or frame picture.
Dec:Syntax	Header size is insufficient or does not match with markerbit.
Dec:NoHead	No picture header exists between picture data.
Dec:SqErr	Detected sequence_error_code.
Dec:Refrenc	In Field structure, top_field and bottom_field of temporal_reference in picture header does not match.
Dec:Profile	profile_and_level_indication in sequence extension header is exceeding MP@ML.
DecHdl(**)	Decoder command execution timeout. (**) is replaced by No. of command which was to be executed. The Nos. and names of commands are as follows. /* DECODER system command */ 0 HANDLER_DECODER_INIT, 1 HANDLER_DECODER_INIT_STARTUP, 2 HANDLER_DECODER_INIT_PLAY, 3 HANDLER_DECODER_INIT_RTR_PLAY, 4 HANDLER_DECODER_INIT_AUDIO, 5 HANDLER_DECODER_EXIT, 6 HANDLER_DECODER_BLACK_BACK, 7 HANDLER_DECODER_SET_DISP_FMT, 8 HANDLER_DECODER_SET_ASPECT_MODE, 9 HANDLER_DECODER_DISP_BITRATE, /* DVD command */ 10 HANDLER_DEC_DVD_VIDEO_PLAY, 11 HANDLER_DEC_DVD_VIDEO_PLAY_LIST, 12 HANDLER_DEC_DVD_AUDIO_PLAY, 13 HANDLER_DEC_DVD_STOP, 14 HANDLER_DEC_DVD_PAUSE, 15 HANDLER_DEC_DVD_PAUSE_STILL_MODE, 16 HANDLER_DEC_DVD_STEP, 17 HANDLER_DEC_DVD_REWSTEP, 18 HANDLER_DEC_DVD_PAUSE_OFF, 19 HANDLER_DEC_DVD_FF, 20 HANDLER_DEC_DVD_REW, 21 HANDLER_DEC_DVD_SLOW, 22 HANDLER_DEC_DVD_REWSLOW, 23 HANDLER_DEC_DVD_SCAN_OFF, 24 HANDLER_DEC_DVD_SLOW_OFF, 25 HANDLER_DEC_DVD_REWSLOW_OFF, 26 HANDLER_DEC_DVD_REWSKIP_TO_REWSLOW, 27 HANDLER_DEC_DVD_REWPAUSE, 28 HANDLER_DEC_DVD_PLAY_LIST_END_CHECK, 29 HANDLER_DEC_DVD_SET_CAPTION_SW_OFF, 30 HANDLER_DEC_DVD_SET_CAPTION_SW_ON, 31 HANDLER_DEC_DVD_REWPAUSE_TO_REWSLOW,

Error Message	Details of error
	32 HANDLER_DEC_DVD_REGIST_TRICK_CALLBACK, 33 HANDLER_DEC_DVD_TRICK_DATA_END, 34 HANDLER_DEC_DVD_AUDIO_STOP, /* management information */ 35 HANDLER_DEC_INIT_NV_PCK, 36 HANDLER_DEC_INIT_RDI_PCK, 37 HANDLER_DEC_READ_NV_PCK_POINT, 38 HANDLER_DEC_READ_RDI_PCK_POINT, 39 HANDLER_DEC_READ_STC, 40 HANDLER_DEC_READ_PTS, 41 HANDLER_DEC_HLI_ENABLE, 42 HANDLER_DEC_COMMAND_PLAY, 43 HANDLER_DEC_COMMAND_PAUSE, 44 HANDLER_DEC_COMMAND_RSLOW_VOBU_STOP, 45 HANDLER_DEC_INIT_VIDEO_MODE, 46 HANDLER_DEC_SET_VIDEO_MODE, 47 HANDLER_DEC_CHECK_VIDEO_OUTPUT, 48 HANDLER_DEC_CHECK_VIDEO_ERROR, 49 HANDLER_DEC_DISPLAY_SUBPICTURE, 50 HANDLER_DEC_SET_SUBPICTURE_PALLET, 51 HANDLER_DEC_IPB_REVERSE, 52 HANDLER_DEC_SET_AUDIO_SYNC, 53 HANDLER_DEC_COMPULSION_OUTPUT_SUBPICTURE, 54 HANDLER_DEC_CLEAR_LAST_NV_PCK_POINT, 55 HANDLER_DEC_CLEAR_LAST_RDI_PCK_POINT, 56 HANDLER_DEC_GET_PICTURE_PARAM, 57 HANDLER_DEC_CHECK_BUFFER_EMPTY, 58 HANDLER_DEC_CHECK_TRICK_END, 59 HANDLER_DEC_READ_VCD_PTS, /* still picture */ 60 HANDLER_DEC_DVD_STILL_NOTIFY, 61 HANDLER_DEC_DVD_STILL_PLAY, 62 HANDLER_DEC_DVD_STILL_FF, 63 HANDLER_DEC_DVD_STILL_FF_OFF, 64 HANDLER_DEC_DVD_STILL_SLOW, 65 HANDLER_DEC_DVD_STILL_SLOW_OFF, 66 HANDLER_DEC_DVD_STILL_PAUSE, 67 HANDLER_DEC_DVD_STILL_PAUSE_OFF, 68 HANDLER_DEC_DVD_STILL_DATA, 69 HANDLER_DEC_DVD_STILL_GET_COUNT, 70 HANDLER_DEC_DVD_RDI_NOTIFY, /* closed caption */ 71 HANDLER_DEC_CAPTION_NOTIFY, 72 HANDLER_DEC_CAPTION_BUFFER_RESET, 73 HANDLER_DEC_CAPTION_SET_INPUT_USER_DATA, 74 HANDLER_DEC_CAPTION_SET_INPUT_FRAME_DATA, 75 HANDLER_DEC_CAPTION_SEND_FRAME_DATA, 76 HANDLER_DEC_FRAME_CHANGE_NOTIFY

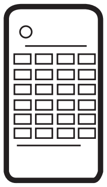
6.5 DV SERVICE MODE

[1] DV Debug

[Purpose]

To check whether communication between a DV device and the unit is normal when a DV device is connected

[Tools to be used]



Remote control unit for servicing
(GGF1381)

- DV device
- DV cable

[How to enter] Press the $\boxed{\text{ESC}}$, $\boxed{\text{DISP}}$ then $\boxed{3}$ keys, in that order.

[How to quit] Press the $\boxed{\text{ESC}}$ key.

[Mode description]

① **(DV/1394) Init:**OK **AV**:02 **DV**:01

② [**Recorder**] **GUID:**00E0360006100001 IRM
③ **iPCR**:C03F0000
④ [**DV**] **GUID:**0080880303480E96
⑤ **VN:**VICTOR **MN:**GR-D50K
⑥ **TM:**C3 **TS:**75 **CT:**32 **WP:**01 **PS:**FF **OS**:00
⑦ **CA:**A000002020 **MD:**VTR
⑧ [**DVdecode:**Yes] **LineSys:**525-60
⑨ **TC:**00h20m35s **RD:**02/02/05 **RT:**10h34m50s
⑩ **ASPECT:**4:3 **CGMS:**000000 **APSTB:**00 **DEC:**525-60
⑪ **SF:**32KHz **QU:**12bit **AMODE:**4) Stereo

Boldface alphanumerics	: Fixed indications
Nonboldface alphanumerics	: Variable indications

No.	Item	Description	Remarks
①	Init	Whether the initialization of 1394 LINK and DV decoder inside EMMA2RFEX has been completed (OK) or not (NG)	
	AV	Number of AV devices recognizing connection	Identification number of AV devices including D-VHS, Digital Tuner, etc other than DV devices.
	DV	Number of DV devices recognizing connection	If the number does not become 01 even if a DV device is connected, identification of that device fails.
②	GUID	GUID set in ConfigROM of the unit	GUID : Global Unique ID (Specific ID for DV devices) If the unit is ROOT (IRM), IRM is displayed at the side position of GUID display.

No.	Item	Description	Remarks
③	iPCR	iPCR value of the unit	
④	GUID	GUID set in ConfigROM of the connected DV device	Data are displayed only if one DV device is identified. If the connected DV device is ROOT (IRM), IRM is displayed at the side position of GUID display.
⑤	VN	Vendor name set in ConfigROM of the connected DV device	Data are displayed only if one DV device is identified. (Depending on the device, the vendor name may not be set in ConfigROM.)
	MN	Model name set in ConfigROM of the connected DV device	Data are displayed only if one DV device is identified. (Depending on the device, the model name may not be set in ConfigROM.)
⑥	TM	Transport Mode data obtained from the DV device	Data are displayed only if one DV device is identified.
	TS	Transport State data obtained from the DV device	
	CT	Cassette Type data obtained from the DV device	
	WP	Write-protection data obtained from the DV device	
	PS	Power-state data obtained from the DV device	
	OS	Output signal mode data obtained from the DV device	
⑦	CA	Connect AV data obtained from the DV device	Data are displayed only if one DV device is identified.
	MD	DV device mode	Camera or VTR is displayed only if one DV device is identified.
⑧	[DVdecode:XXX]	Whether Yes (in the process of requesting DV input) or No is indicated in XXX	Normally, Yes is indicated only when CH is set to DV.
	LineSys	Input Line System setting	
⑨	TC	Time-code data of the DVdecode Stream, or response data of the Time Code command	Stream time-code data are obtained when the tape is played in forward direction. Otherwise, time-code data are obtained through an AV/C command.
	RD	Rec Date of DVdecode Stream	
	RT	Rec Time of DVdecode Stream	
⑩	ASPECT	Aspect Ratio of DVdecode Stream	
	CGMS	CGMS of DVdecode Stream (from left to right, CGMS data of bits 5-4: Audio ch 2, bits 3-2: Audio ch 1, and bits 1-0: Video)	*CGMS (Copy Generation Management System): The two-digit codes added to broadcast programs represent the following: 00: Copy freely, 10: Once copy, 11: Never copy
	APSTB	APS trigger bit of DVdecode stream	
	DEC	With/without DVdecode stream input	With input: Signal type (525-60, 625-50, 1125-60, 1250-50, or Invalid) is indicated, Without input: "No" is indicated.
⑪	SF	Sampling Frequency of DVdecode Stream	If SF is 44 kHz, it is considered that 44.1-kHz audio is input, and sound is muted on the unit.
	QU	QUANTIZATION of DVdecode Stream	
	AMODE	AUDIO MODE of DVdecode Stream	

[2] Simple Diagnosis of DV

Symptoms		Location in the Debug Screen	Items to be Checked, and Conditions	Possible causes
No operation for DV input	1	DV ①	Check the Init indication: OK: Initialization of 1394 LINK and DV decoder inside EMMA2RFEX appropriately completed. NG: Initialization of 1394 LINK and DV decoder inside EMMA2RFEX has not been completed properly.	Defective IC1001(EMMA2RFEX)/ IC5103(1394PHY), improper connection between IC1001 / IC5103, defective soldering, defective power supply, etc.
	2	DV ①	Check the number of DV devices when one DV device is connected to the recorder: 01 : The connected DV device is correctly identified. Other than 01 : The connected DV device is not correctly identified.	Defective DV terminals, improper connection of the DV-terminal board, defective IC5103(1394PHY), defective cables, an IEEE 1394 device other than the DV device connected.
No picture nor sound for DV input	1	DV ⑧	Check of DV decoding when the recorder channel is set to DV: Yes: The recorder is in the process of a DV input operation No: The recorder is not executing a DV input operation	Defective IC1001(EMMA2RFEX), defective soldering, defective power supply, etc.
	2	DV ⑩	Check DEC: 525-60: An NTSC DV signal is input from the DV device. 625-50: A PAL DV signal is input from the DV device. No: No DV signal is input from the DV device.	Defective DV terminals, improper connection of the DV-terminal board, defective source device defective IC1001(EMMA2RFEX), IC5103(1394PHY) **Note:** As to a model having the Input Line System setting, if the setting and the actual input signal system do not match, no picture appears.
DV input recording impossible	1	DV ⑩	Check CGMS:	Recording cannot be performed for a copy-protected source.
No sound for DV input	1	DV ⑪	Check SF: 32 khz: An audio signal with 32-kHz sampling frequency is being input. 48 khz: An audio signal with 48-kHz sampling frequency is being input. 44 khz: An audio signal with 44.1-kHz sampling frequency is being input.	An audio signal with 44.1-kHz sampling frequency is muted.

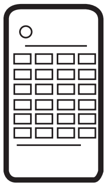
6.6 EPG SERVICE MODE

[Purposes]

Reasons for the following malfunctions can be inferred by checking the conditions for obtaining the past EPG data:

① EPG data cannot be obtained.
② Some EPG data obtained are missing.

[Tool to be used]



Remote control unit for servicing
(GGF1381)

[How to enter] • Press the ESC, DISP, 7 keys, in that order.

[How to quit] Press the ESC key.

[Description of the mode]

1. Summary screen

```
     0         1         2         3         4
     01234567890123456789012345678901234567890123456
00   (EPG EURO)
01   Next Data  Download Time : 14:00
02              Duration      : 01h30m
03   Gemster Data  Fail Count : 00
04
05
06
07   EPG Data Receive Err Summary
08   Date   Start  End   MD   CH  RcvPkt   TotalErr
09   03/31 13:00 13:30 DL   03  001853   000000
10   03/31 09:00 11:00 DL   03  001192   000000
11   03/31 08:00 08:05 HS   --   000645   000000
12   03/31 00:00 00:00           000000   000000
13   03/31 00:00 00:00           000000   000000
14   03/31 00:00 00:00           000000   000000
```

Lines 01-02	The next download starting time for the EPG data is displayed. Next Data Download Time: Starting time Duration: Duration required for acquiring the EPG data
Lines 03	The Gemster EPG data cannot be found. Number times of Host Scan and Schedule Download, DT models only (Always 00 except DT model)
Lines 09-14	The 6 latest error logs when EPG data were received are displayed, with the latest one at the top. Date : Month/day when reception started Start : Time when reception started End : Time when reception ended MD : Method for acquiring the EPG data (HS: Host scanning process, DL: Downloading process of the EPG data) CH : Data-receiving channel RcvPkt : Total number of received packages. A number 999,999 or greater is displayed as "999999." Total Err : Total errors during reception. The sum of Hamming Err, Trans Err and InvLine Err numbers indicated on the Detail screen. A number 999,999 or greater is displayed as "999999."

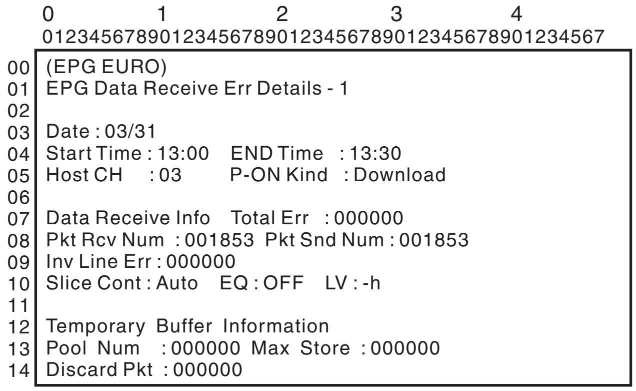
[Tips] In a case where only "HS" is displayed in the MD column of the logs, the host channel has not been found.
It is necessary to check the country and postal-code settings in the user settings.

2. Detail screen

[How to enter] Press the DIG/ANA key while the Summary screen is displayed. Up to 6 detail screens (1 to 6) are displayed, one each time the DIG/ANA key is pressed. Each detail screen 1 to 6 corresponds with the EPG reception error logs from the top on the Summary screen.

[How to quit] Press the ESC key.

[Description of the Detail screens]



```
     0         1         2         3         4
     012345678901234567890123456789012345678901234567
00   (EPG EURO)
01   EPG Data Receive Err Details - 1
02
03   Date : 03/31
04   Start Time : 13:00    END Time   : 13:30
05   Host CH    : 03       P-ON Kind  : Download
06
07   Data Receive Info    Total Err  : 000000
08   Pkt Rcv Num  : 001853  Pkt Snd Num : 001853
09   Inv Line Err : 000000
10   Slice Cont : Auto    EQ : OFF    LV : -h
11
12   Temporary  Buffer  Information
13   Pool  Num    : 000000  Max  Store  : 000000
14   Discard Pkt  : 000000
```

Line	Display item	Description	Remarks
Line 01	EPG Data Receive Err Details-X	The rightmost figure represents the number of the current detail screen. This number corresponds to the order of the EPG reception error log from the top.	
Lines 03-05, Reception conditions	Date Start Time END Time Host CH P-ON Kind	: Month/day when reception started : Time when reception started : Time when reception ended : Data-receiving channel : Methods for acquiring the EPG data (host scanning and downloading)	Only during initialization, host scanning is automatically executed to find the host broadcast.
Lines 07-10, details on errors during reception	Total Err	: Total numbers of errors during reception. The total number of Hamming Err, Trans Err and InvLine Err indicated on the Detail screen. A number 999,999 or greater is displayed as "999999."	Total Errors: If the total number of errors reaches two digits or greater, it is likely that EPG data acquisition failed. Display subscreen 1 of the first screen and check the electric field intensity from the AGC level.
	Pkt Rcv Num Pkt Snd Num	: Total number of received packages. A number 999,999 or greater is displayed as "999999." : Total number of packages that were sent to the application program among all the received packages. A number 999,999 or greater is displayed as "999999."	If the total number of received packages is 0, it is likely that the country and postal-code settings are wrong.
	InvLine Err	: Total number of errors that were generated by receiving data from invalid lines. A number 999,999 or greater is displayed as "999999."	
	Slice Cont	: Slice level control Auto-Tu Con, Manual - Syscon.	
	EQ	: Equalizer setting (ON, OFF)	
	LV	: Slice level (10~30 hex) (Only when the slice Count is Manual.)	

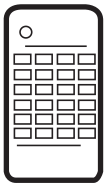
Note: The data on lines 12-14 are for software development, not for service use.

6.7 HDMI SERVICE MODE

[Purposes]

To check the statuses of the connected HDMI devices.

[Tool to be used]



Remote control unit for servicing (GGF1381)

- HDMI device
- HDMI cable

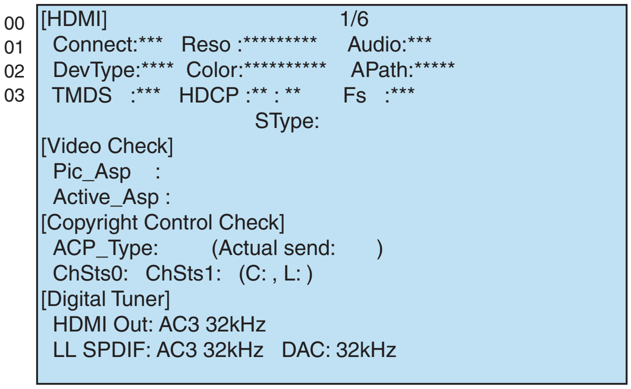
[How to enter] • Press the ESC, DISP then +10, +10, 4 keys, in that order.

Note: Do not press any key on the remote control unit supplied with the unit or for servicing while the HDMI debug screen is displayed.

[How to quit] Press the ESC key.

[Description of the mode]

1. HDMI MAIN information screen (First screen)



```
00 [HDMI]                              1/6
01   Connect:***   Reso :*********     Audio:***
02   DevType:****  Color:**********    APath:*****
03   TMDS   :***   HDCP :** : **       Fs   :***
                              SType:
   [Video Check]
     Pic_Asp    :
     Active_Asp :
   [Copyright Control Check]
     ACP_Type:        (Actual send:      )
     ChSts0:   ChSts1:   (C: , L: )
   [Digital Tuner]
     HDMI Out: AC3 32kHz
     LL SPDIF: AC3 32kHz   DAC: 32kHz
```

(*1) [Tips]
Because all the data on connection and authenti--cation are canceled once the function of the connected HDMI device is set to a position other than HDMI, all the debugging data in Table 1 are deleted.

Table 1: Description of the items on the HDMI main information screen

Line	Item	Description	Remark
1	Connect	Connection status of the HDMI device	See Table 2.
	Reso	Output resolution	See Table 3.
	Audio	HDMI audio output status	See Table 4.
2	DevType	Type of connected device	See Table 5.
	Color	Output color	See Table 6.
3	TMDS	TMDS (video stream) signal output status	See Table 7.
	HDCP	HDCP Authentication status	See Table 8.
	Fs	Output audio Fs	See Table 9.

Table 2: Connection status of the HDMI device

Indication	Description
ON	Connected
HtPlg	Not connected but Hot plug is ON.
OFF	Not connected

Table 3: Output resolution

Indication	Description
480i NTSC	720x480i NTSC
480p NTSC	720x480p NTSC
720p NTSC	1280x720p NTSC
1080i NTSC	1920x1080i NTSC
1080p NTSC	1920x1080p NTSC
576i PAL	720x576i PAL
576p PAL	720x576p PAL
720p PAL	1280x720p PAL
1080i PAL	1920x1080i PAL
1080p PAL	1920x1080p PAL
----------	TMDS Off

[Description of the Main screen] (Continued)

Table 4: HDMI audio output status

Indication	Description
OFF	Output: Off
ON	Output: On

When the unit is connected to DVI device (refer to Table 5), the Audio is not outputted.

Table 5: Type of the connected device

Indication	Description
------	Not connected
HDMI	It has been confirmed that an HDMI device supporting HDCP is connected.
DVI	It has been confirmed that a DVI device supporting HDCP is connected.

When the unit is connected to device with no HDCP support, this display is "HDMI-" or "DVI-".

Table 6: Output color

Indication	Description
YCbCr4:2:2	Component 12 bits (YCbCr4:2:2)
YCbCr4:4:4	Component (YCbCr4:4:4)
RGB(0-255)	RGB full range (0-255)
RGB(16-235)	RGB (16-235)
-----------	TMDS Off

Table 7: TMDS signal output status

Indication	Description
OFF	Output: Off
ON	Output: On

Table 8: HDCP

Left side : HDCP Authentication Status

Indication	Description
--	If an device supporting HDCP is connected, HDCP authentication is in progress.
OK	HDCP authentication succeeded.

Refer to this item only when HDMI or DVI is displayed for the item for the type of the connected device (Table 5).
If OK is not displayed although HDMI or DVI is displayed, it means that the HDCP authentication failed.

Right side : Check Revocation list

Indication	Description
--	Checking that the connected device (all downstream devices) is not registered to the Revocation list, or so.
OK	The connected device (all downstream devices) is not registered to the Revocation list.

Refer to this item only when HDMI or DVI is displayed for the item for the type of the connected device (Table 5).
When there is also no valid SRM (include Revocation list), "--" is displayed here.

Table 9: Fs

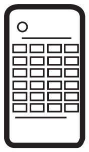
Indication	Description
32k	32kHz
44k	44.1kHz
48k	48kHz
96k	96kHz
96k/2	48kHz (original data of 96kHz is down-sampled.)
---	Audio Off

6.8 AGING MODE

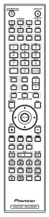
[Purposes]

If symptoms regarding recording/playback of discs and/or the HDD that your customer claimed are difficult to reproduce, they can be reproduced with a long-time test in Aging mode.

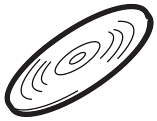
[Tools to be used]



Remote control unit for servicing (GGF1381)



Remote control unit supplied with the unit



Commercially available, recordable DVD-R/+R and DVD-RW/+RW/-RAM discs

[Notes]

- When aging for the DVD-RW/+RW/-RAM and HDD is executed, all recorded data on them will be erased.
- Commands from the remote control unit are accepted during Aging mode.
- If Aging mode is quit using the ESC key, indications on the FL display will return to normal display.
- Cancel timer settings before entering Aging mode.
- Set the recording rate beforehand. It cannot be changed during Aging mode.

[How to enter]

① Press the DVD key to switch to DVD.
② Load a recordable disc.
③ Select the input function of a recordable source.
④ After disc detection is performed, press the ESC then REP.B, and then PLAY keys on the remote control unit for servicing to enter Aging mode.

[How to quit]

Press the ESC key on the remote control unit for servicing to quit Aging mode and return to Normal mode.

Notes:

- If during recording: Recording is stopped.
- If during playback: Playback is paused. (aging for ±RW/-RAM only)
- If during initialization: The unit stops after initialization is finished.
- If the tray is being opened/closed: The unit stops after the tray is opened/closed.

[Description of operation] **Aging for the DVD-RW/DVD-R**

Aging for the DVD-RW/+RW/-RAM	Aging for the DVD-R/+R
During Aging mode, the following operations are repeated in the order shown below. ①The tray opens. ②The tray closes. ③Initialization ④Recording for 60 minutes ⑤Playback for 45 minutes <DVD-RW> The initialization process in step 3 follows the setting specified in "Disc setting--Basic--Auto initialization of a DVD-RW." <DVD+RW> The initialization process in step 3 is the same as that described in "Disc setting--Initialization--Initialization of a DVD+RW." <DVD-RAM> In the initialization process in step 3, physical formatting is performed, if required. During Aging, the number of loops is indicated on the FL display, as shown below. [AGING 0001] If an error is generated, the aging operation stops. **Note:** Indications on the FL display are retained, and this information is also retained as an OSD.	During Aging mode, the following operations are repeated in the order shown below. ①The tray opens. ②The tray closes. ③Recording for 1 minute ④Recording pause for 6 minutes ⑤Recording stops. ⑥Playback for 1 minute ⑦Playback pause for 6 minutes ⑧Playback stops. **Note:** A continuous test of the above operations is possible for approximately 23 hours. After ② the tray closes, disc detection is performed, <DVD-R> In step 2, if the disc is judged to have recorded up to 99 titles, the operation stops at that point. <DVD+R> If the disc is judged to have recorded up to 49 titles, the operation stops at that point. On the FL display, the number of loops is retained. On the OSD display, the error indication is retained. During Aging, the number of loops is indicated on the FL display, as shown below. [AGING 0001] If an error is generated, the aging operation stops. **Note:** Indications on the FL display are retained, and this information is also retained as an OSD. **Note:** Recording time depends on the recording rate set. For example, if the recording rate is MN32, only up to 60 titles can be registered. Check the setting for recording rate before performing aging.

[Aging for the HDD]

[How to enter]

① Press the HDD key to switch to HDD.
② Press the ESC key then the REP.B, and then the PLAY keys on the remote control unit for servicing to enter Aging mode.

[How to quit]

Press the ESC key on the remote control unit for servicing to quit Aging mode and return to Normal mode.

Notes:

- If during recording: Recording is stopped.
- If during playback: Playback is paused.
- If during erasure of all memory data from the HDD, the unit stops after all memory data have been erased.

[Description of operation]

During Aging mode, the following operations are repeated in the order shown below.
① Erasure of all the memory data from the HDD
② Recording for 60 minutes
③ Playback for 60 minutes

* Take caution as all recorded data of the HDD is deleted.

[Tips]

During Aging, the number of loops is indicated on the FL display, as shown below.
[AGING 0001]

If an error is generated, the aging operation stops.

Note:

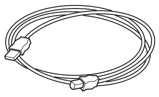
Indications on the FL display are retained, and this information is also retained as an OSD.

6.9 USB CHECK MODE

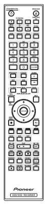
[Purposes]

As this unit is provided with two USB ports, operation checks of these ports are possible by connecting them (loop connection).

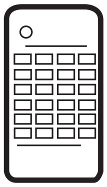
[Tools to be used]



USB cable
(GGD1445)



Remote control unit
supplied with the unit



Remote control unit for servicing
(GGF1381)

[How to enter this mode]

1. Connect Connector A (at the front panel) and Connector B (at the front panel), using a USB cable.
2. Enter USB Check mode.
   Press the ESC key on the remote control unit for servicing then press the TIMER REC key on the remote control unit supplied with this unit.

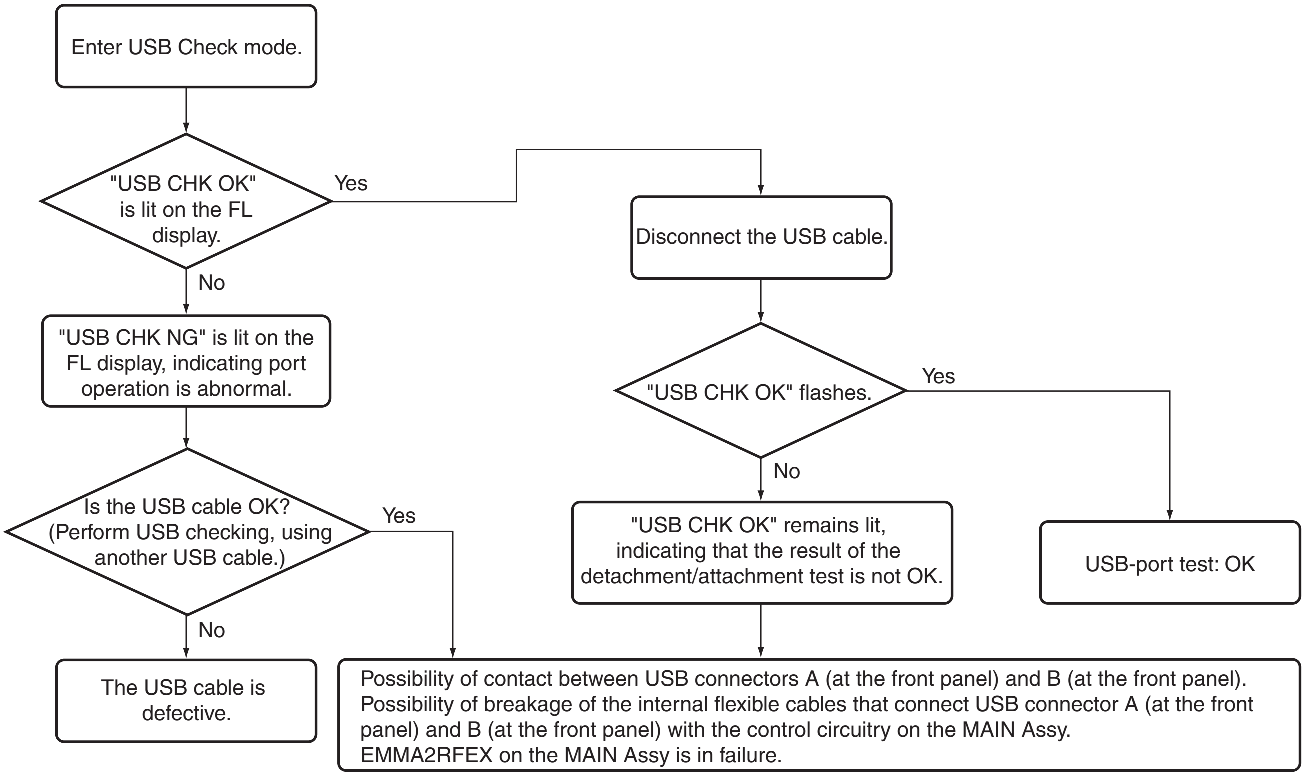
[How to quit] To quit while the ports are operating properly ("USB CHK OK" is lit.): Press the ESC key or the clear key.
To quit while port operation is abnormal: Turn the power off then back on.

[Procedures]

1. Check the indication on the FL display.
   When the two ports are operating properly: "USB CHK OK" is lit.
   When port operation is abnormal: "USB CHK NG" is lit.

2. When "USB CHK OK" is lit in Step 1, disconnect the USB cable in order to perform the detachment/attachment test.
   The indication on the FL display will change, as follows:
   If the result is OK: "USB CHK OK" will flash.
   If the result is not OK: "USB CHK OK" will remain lit.

[Troubleshooting]


Enter USB Check mode.
"USB CHK OK" is lit on the FL display.
Yes
No
Disconnect the USB cable.
"USB CHK NG" is lit on the FL display, indicating port operation is abnormal.
"USB CHK OK" flashes.
Yes
No
Is the USB cable OK? (Perform USB checking, using another USB cable.)
Yes
No
"USB CHK OK" remains lit, indicating that the result of the detachment/attachment test is not OK.
USB-port test: OK
The USB cable is defective.
Possibility of contact between USB connectors A (at the front panel) and B (at the front panel).
Possibility of breakage of the internal flexible cables that connect USB connector A (at the front panel) and B (at the front panel) with the control circuitry on the MAIN Assy.
EMMA2RFEX on the MAIN Assy is in failure.

6.10 HDD CHECK MODE

[1] How to Diagnose Failure of the Hard Disc Drive (HDD)

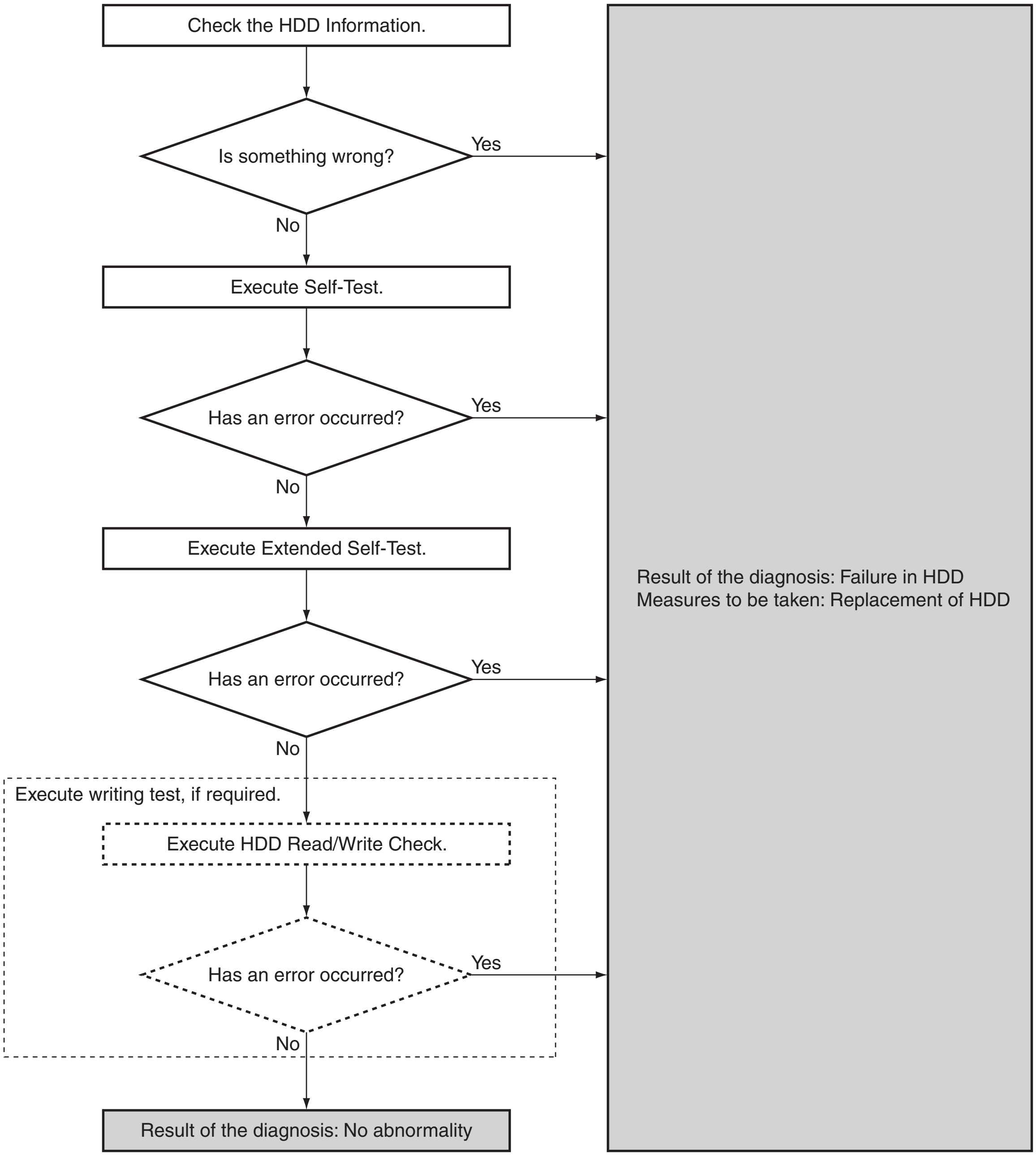
Purpose:
With use of the HDD-diagnostic program contained in the product itself, physical errors on the HDD can be diagnosed. Use this program to diagnose whether or not the HDD is in failure when one of the symptoms indicated below is recognized, or when a failure in the HDD is suspected.

Symptoms of failure in HDD:
(1) HDD Error
(2) Failure in HDD recording or playback
(3) HDD not recognized

Tool to be used:
Remote control unit for servicing (GGF1381)

[2] Flow of HDD Diagnosis

(1) Flowchart of HDD diagnosis


Check the HDD Information.
Is something wrong?
Yes
No
Execute Self-Test.
Has an error occurred?
Yes
No
Execute Extended Self-Test.
Has an error occurred?
Yes
No
Execute writing test, if required.
Execute HDD Read/Write Check.
Has an error occurred?
Yes
No
Result of the diagnosis: No abnormality
Result of the diagnosis: Failure in HDD
Measures to be taken: Replacement of HDD

(2) Overview of the diagnosis items

HDD Information	This is a display for checking the HDD information, such as the model name of the HDD, continuous power-on time, authentication status, and results of the diagnosis on the end of service life.
SELF TEST	This is a simplified diagnosis for the HDD. A serious failure in the HDD can be detected with this test. Time required for testing: Approx. 60 sec.
EXTENDED SELF TEST	This is a reading test across all sectors of the HDD. Data recorded on the HDD will not be erased, because no writing operation is performed. Time required for testing: Approx. 2.5 hours/500 GB 1.3 hours/250 GB
HDD Read / Write Check	This is a writing, reading, and comparing test across all sectors of the HDD. **All data recorded on the HDD will be erased**, because all the data are to be overwritten. **Be sure to obtain your client's consent beforehand.** Time required for testing: Approx. 15 hours/500 GB 8 hours/250 GB You must redownload Gracenote DB data, because Gracenote DB data are to be over written too.

[3] How to Start or Terminate the Diagnostic Program

How to start/terminate the diagnostic program

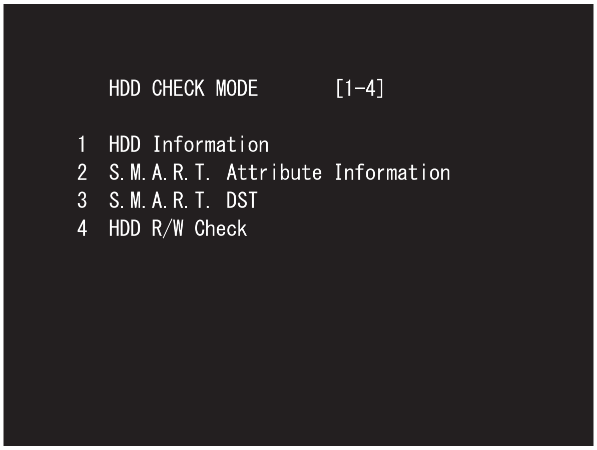
Use the remote control unit for servicing.
How to start: Press the "ESC", "CX", "0", and "1" keys simultaneously.
How to terminate: Press the "ESC" key.

Do NOT perform other operations on the unit while the HDD diagnosis is in progress. Although the diagnostic program is designed to function independently from the unit's functions, an operation on the unit during a diagnosis may cause a malfunction.

The status of the unit recommended during diagnosis is as follows: All stop, no timer recording (including auto-recording), and Input selection to L1-L3.

[4] Diagnosis Procedures

① Display the menu on the screen.
The menu indicated below is displayed when the diagnostic program is started. To enter each mode, press the corresponding key "1"-"4" on the remote control unit for servicing.

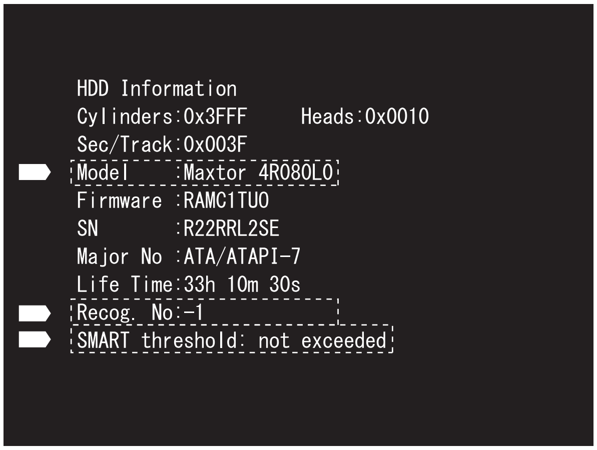


```
   HDD CHECK MODE       [1-4]

1  HDD Information
2  S.M.A.R.T. Attribute Information
3  S.M.A.R.T. DST
4  HDD R/W Check
```

Tests to be executed
① HDD Information:
Check of the HDD information
② S.M.A.R.T. DST:
Executing a simplified test or a reading test of all data
③ HDD R/W Check:
Executing a writing/reading test of all data. All data on the HDD will be erased if this test is executed.

Note: "2. S.M.A.R.T. Attribute . . ." is not to be used.

② Check the HDD information.
Press the "1" key on the remote control unit for servicing. Check the following data:
Model: Is the correct model name of the HDD displayed?
Recog. No: Is a positive value displayed?
SMART threshold: Is "not exceeded" displayed?

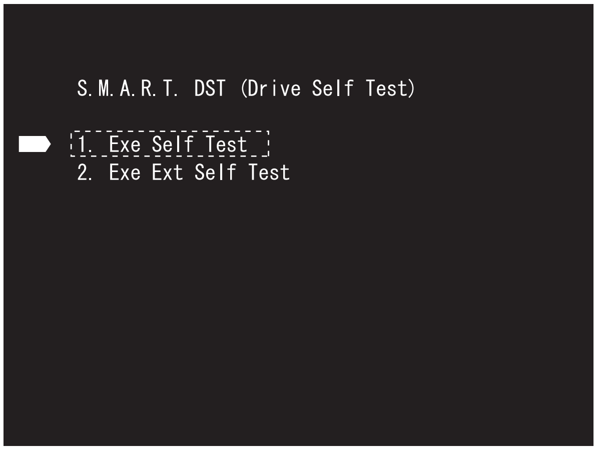


```
HDD Information
Cylinders:0x3FFF     Heads:0x0010
Sec/Track:0x003F
Model     :Maxtor 4R080L0
Firmware :RAMC1TU0
SN        :R22RRL2SE
Major No :ATA/ATAPI-7
Life Time:33h 10m 30s
Recog. No:-1
SMART threshold: not exceeded
```

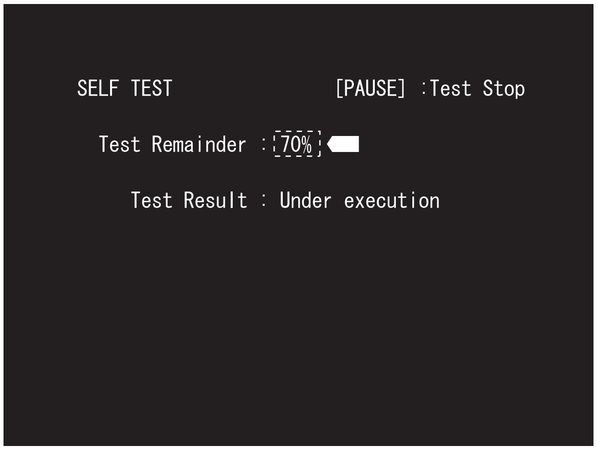
Detailed description
① Model:
For the correct model name, refer to the display of the unit.
② Recog. No:
Positive value: The HDD has been authenticated.
Negative value: The HDD has not been authenticated.
③ SMART threshold:
exceeded: The HDD has come to the end or near the end of its service life.
not exceeded: The HDD has not reached the end of its service life.

To return to the menu screen, press the "Clear" key.

③ Execute Self-Test.
Press the "3" key on the remote control unit for servicing while the menu screen is displayed.
When the following screen is displayed, press the "1" key to start the Self-Test.



```
S.M.A.R.T. DST (Drive Self Test)

1. Exe Self Test
2. Exe Ext Self Test
```



```
SELF TEST              [PAUSE] :Test Stop

  Test Remainder : 70%

     Test Result : Under execution
```

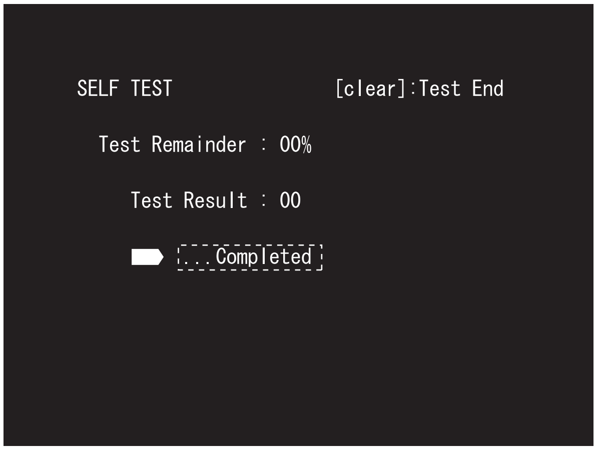
The progress of the test is displayed on the screen. The percentage remaining of the test is displayed on the screen, and the test is terminated when the percentage reaches 00%.
Check whether or not an error has occurred after the test is finished.

Diagnosis results

- Without an error: ". . . Completed" is displayed.
  Then, proceed to the Extended Self-Test.
- With an error: ". . . Error" is displayed. Look at the number in Test Result.
  If the place value for tens is 1 or 2, execute the Self-Test again.
  If it is from 3 to 7, the HDD must be replaced.

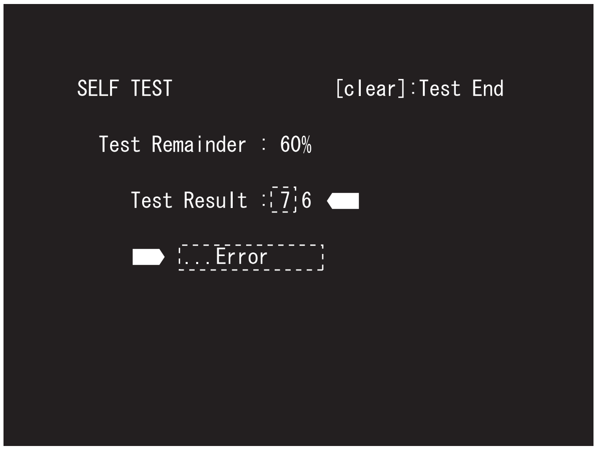
Note: If the result of the second test is the same, replacement of the HDD is required.

Example: No error



```
SELF TEST              [clear]:Test End

  Test Remainder : 00%

     Test Result : 00

     ...Completed
```

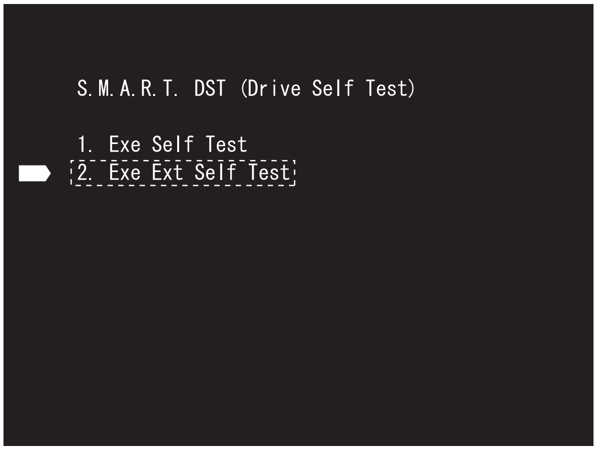
Example: With an error



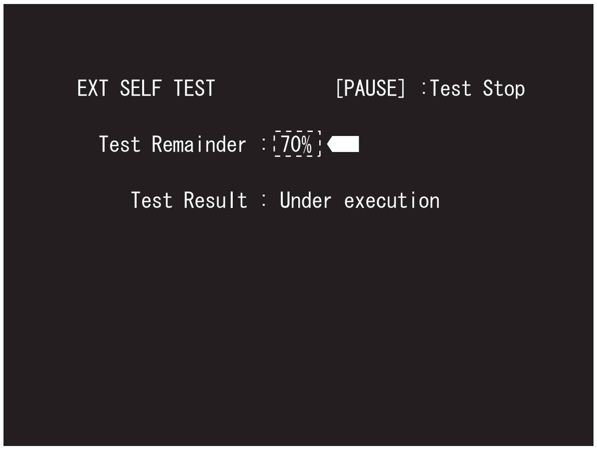
```
SELF TEST              [clear]:Test End

  Test Remainder : 60%

     Test Result : 76

     ...Error
```

To return to the menu screen, press the "Clear" key.

④ Execute the Ext (Extended) Self-Test.



```
S.M.A.R.T. DST (Drive Self Test)

1. Exe Self Test
2. Exe Ext Self Test
```



```
EXT SELF TEST          [PAUSE] :Test Stop

  Test Remainder : 70%

     Test Result : Under execution
```

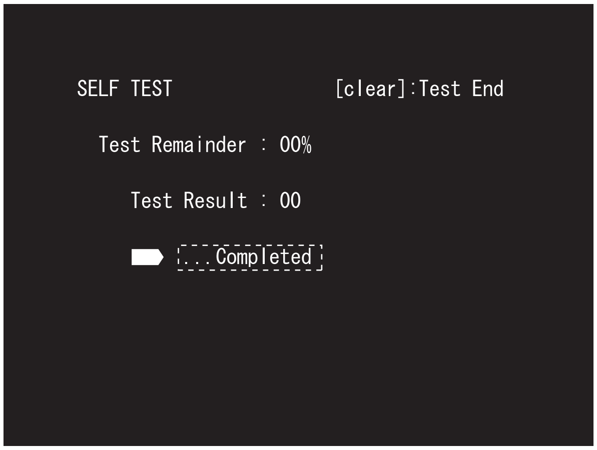
Press the "3" key while the menu screen is displayed, then the "2" key on the remote control unit for servicing.
The Extended Self-Test starts. The percentage remaining of the test is displayed on the screen, and the test is terminated when the percentage reaches 00%. Check whether or not an error has occurred after the test is finished.

Diagnosis results

- Without an error: ". . . Completed" is displayed.
  If no error occurs up until this stage, HDD operations are normal except for writing operations.
  If the unit has a failure in HDD playback, a block other than the HDD may be in failure.
  If the unit's failure is in HDD recording, however, the next HDD Read/Write Check must be executed to test writing operations.
- With an error: ". . . Error" is displayed.
  Look at the number in Test Result.
  If the place value for tens is 1 or 2, execute the Ext Self-Test again.
  If it is from 3 to 7, the HDD must be replaced.

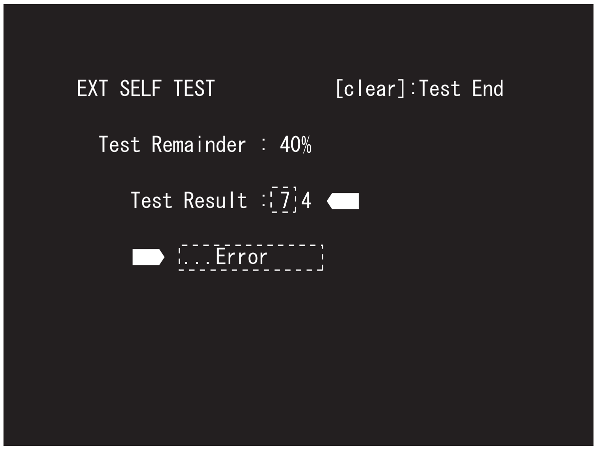
Note: If the result of the second test is the same, replacement of the HDD is required.

Example: No error



```
SELF TEST              [clear]:Test End

  Test Remainder : 00%

     Test Result : 00

     ...Completed
```

Example: With an error

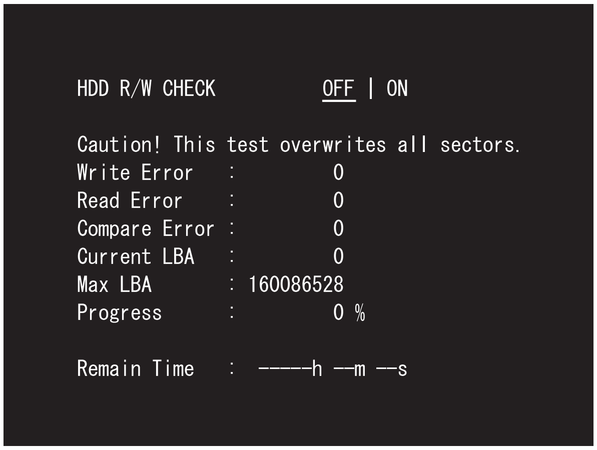


```
EXT SELF TEST          [clear]:Test End

  Test Remainder : 40%

     Test Result : 74

     ...Error
```

To return to the menu screen, press the "Clear" key.

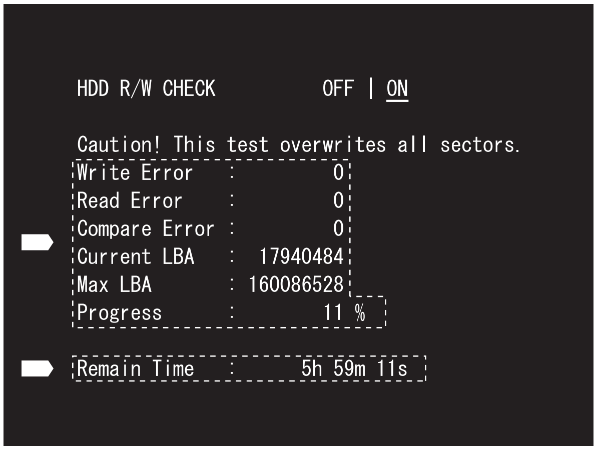
⑤ Execute the HDD R/W Check.
Before executing this test, **be sure to obtain your client's consent for erasure of HDD data**.
Press the "4" key while the menu screen is displayed then the "SKIP ►►I" key to start the HDD R/W Check.

NOTE
Be sure to press the "SKIP I◄◄" key to complete this test after the progress reaches 100% or cancel this test (OFF) while it's in progress.
Do not press "ESC" key without pressing "SKIP I◄◄" key, otherwise this test is not completed and it causes unexpected errors on the HDD.



```
HDD R/W CHECK          OFF | ON

Caution! This test overwrites all sectors.
Write Error   :         0
Read Error    :         0
Compare Error :         0
Current LBA   :         0
Max LBA       : 160086528
Progress      :         0 %

Remain Time   :  -----h --m --s
```

The display on the left indicates the progress of the test.
The percentage of the test progress is displayed on the screen, and the test is finished when the percentage reaches 100%.



```
HDD R/W CHECK          OFF | ON

Caution! This test overwrites all sectors.
Write Error   :         0
Read Error    :         0
Compare Error :         0
Current LBA   :  17940484
Max LBA       : 160086528
Progress      :        11 %

Remain Time   :      5h 59m 11s
```

Detailed description on each item on the screen
- Write Error: Number of write errors
- Read Error: Number of read errors
- Compare Error: Number of comparison errors
- Current LBA: The address during testing
- Max LBA: Highest address number of the HDD
- Progress: Percentage of test progress (%)
- Remain Time: Estimated time required for finishing the test across all sectors.
  Estimated time: 15 hours/500 GB
  8 hours/250 GB

Diagnosis results
- If no error occurs in any of the Write/Read/Compare items, the HDD is in normal condition and is not required to be replaced. A block other than the HDD is in failure.
- If any error occurs, the HDD must be replaced.

When the status is OFF
To terminate the diagnostic program, press the "ESC" key.

When the status is ON
The status becomes OFF when the test is interrupted by pressing the "SKIP I◄◄" key or when "Progress" reaches 100%.

6.11 DIAGNOSTIC PROCEDURES WHEN AAC DECODING HAS FAILED

[1] AAC information

[Purpose]

AAC Error Information

[How to Enter]

Press [ESC], [DISP], [+10], then [1], in that order. The first screen is displayed.
To switch screens, press [DIG/ANA].

First screen

```
[CD Media Debug Information]

Total Track:**(DA:** ROM:**)  Session:******

Application:
   External:--  (Note 1)
```

Note 1: Startup status (OK/NG) of the external decoder
If the external decoder starts up normally, OK is displayed. If it fails to start up, NG is displayed. With NG, playback of any AAC file will fail.

Possible causes for failure of startup and how to diagnose

Possible cause 1: No reset signal is input to IC101.
How to diagnose: Check whether a high signal is input to Pin AAC_RESET_B of IC101.

Possible cause 2: Communication failure between IC101 and IC1001 on the MAIN ASSY.
How to diagnose: Check whether high and low signals are alternately input to Pins AAC_D0 to AAC_D15, AAC_A0 to AAC_A10, AAC_RD_B, AAC_WR_B, and AAC_CS_B for communication.

Possible cause 3: Failure in IC101
How to diagnose: Check whether a low signal is output from Pin AAC_INT_B in response to the reply from IC101

Possible cause 4: Failure in IC101 that cannot be diagnosed

The flow of startup processes is as follows:
(1) A high signal is input to Pin AAC_RESET_B.
(2) Communication starts, using Pins AAC_D0 to AAC_D15, AAC_A0 to AAC_A10, AAC_RD_B, AAC_WR_B, and AAC_CS_B.
(3) In response to the process in step (2) above, a low signal is output from Pin AAC_INT_B.
(4) Steps (2) and (3) are repeated until the startup process is completed.

Second screen: Information on playback of MUSIC files

```
[MUSIC] [*ch  ****Kbps  **KHz-**Bit]  SRC:****
HEAD:[ AAC-xxxx(xxxx) FS:xx(xx) STSS:[xxx x]      ]

CurStat:*********   TgtStat:*********
ERROR; ******** (                               )
      (Note 2) (                                )
ADDRESS; NOW  :0x00000000   TOP  :0x00000000
         START:0x00000000   END  :0x00000000
         ENTRY:0x00000000
TIME ;   NOW  :**.**.**   TOTAL:**.**.**

FMODE; AREA:[*** *]  MODE:*****  ERR:**** CPR:****

FILE ;  CurNo:****_**  TgtNo:****_**   Total:****
        Name :
FOLDER; CurNo:****(****)  TgtNo:****(****)  Total:****
        Name :
```

Note 2:
ERROR information

If any error code is indicated in parentheses, a playback error has been generated. Each error code is displayed in its fixed position. (The duration of error-code indication is short, because when an error is generated, playback of the next file is automatically attempted.)

Description of error codes

FMT	: The file cannot be recognized as having an MP4 file format.
DEC	: Although the file is recognized as playable, the decoder could not decode the data of the file correctly.
CH	: The number of channels is not supported.
QNT	: The quantization bit rate is not supported.
BPS	: The bit rate is not supported.
FS	: The sampling frequency is not supported.
BOX	: The file format is judged to be not supported upon analysis of the MP4 file.
PRF	: The Advanced Audio Codec (AAC) is judged to be not playable.
MEM	: The system failed to secure the amount of memory required for playback.

Possible causes for errors and how to diagnose

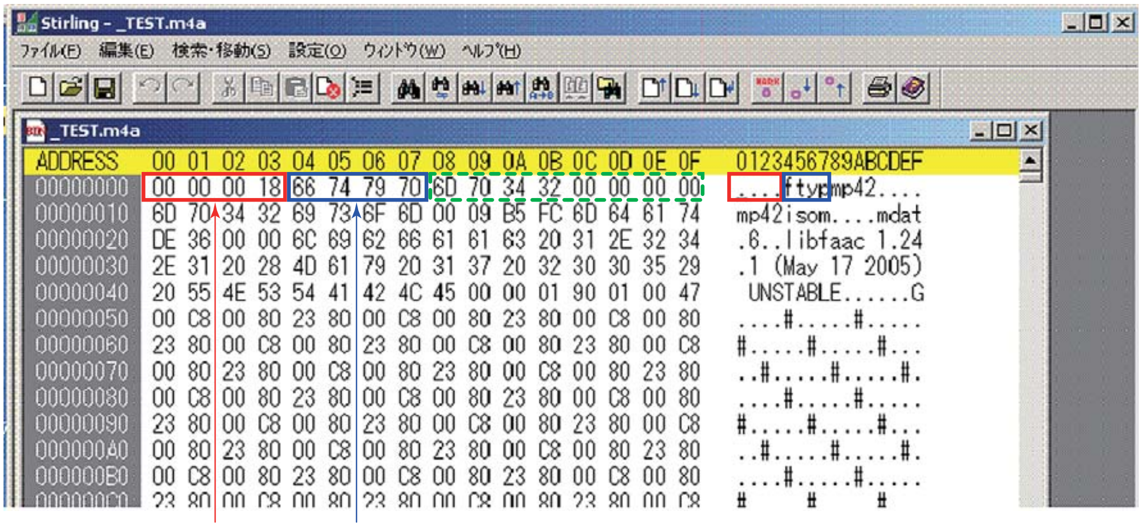
Possible causes for an FMT error

Possible cause 1: Impossible box size for the first box of an MP4 format file

How to diagnose: Check the binary data of the file with which an FMT error was generated. Consider the first 4 bytes at the beginning of the file as the box size and check if the size is 0 or a value that exceeds the file size.
If the box size is 1, consider the 8 bytes from the 8th byte from the beginning as the box size. Check if the size is 0 or a value that exceeds the file size.

How to check the box size:

For checking the binary data of the file, use the Binary Editor of the PC tools.
The figure below shows the binary data of an MPEG4 file:



```
ADDRESS   00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F   0123456789ABCDEF
00000000  00 00 00 18 66 74 79 70 6D 70 34 32 00 00 00 00   ....ftypmp42....
00000010  6D 70 34 32 69 73 6F 6D 00 09 B5 FC 6D 64 61 74   mp42isom....mdat
00000020  DE 36 00 00 6C 69 62 66 61 61 63 20 31 2E 32 34   .6..libfaac 1.24
00000030  2E 31 20 28 4D 61 79 20 31 37 20 32 30 30 35 29   .1 (May 17 2005)
00000040  20 55 4E 53 54 41 42 4C 45 00 00 01 90 01 00 47    UNSTABLE......G
00000050  00 C8 00 80 23 80 00 C8 00 80 23 80 00 C8 00 80   ....#.....#.....
00000060  23 80 00 C8 00 80 23 80 00 C8 00 80 23 80 00 C8   #.....#.....#...
00000070  00 80 23 80 00 C8 00 80 23 80 00 C8 00 80 23 80   ..#.....#.....#.
00000080  00 C8 00 80 23 80 00 C8 00 80 23 80 00 C8 00 80   ....#.....#.....
00000090  23 80 00 C8 00 80 23 80 00 C8 00 80 23 80 00 C8   #.....#.....#...
000000A0  00 80 23 80 00 C8 00 80 23 80 00 C8 00 80 23 80   ..#.....#.....#.
000000B0  00 C8 00 80 23 80 00 C8 00 80 23 80 00 C8 00 80   ....#.....#.....
000000C0  23 80 00 C8 00 80 23 80 00 C8 00 80 23 80 00 C8   #     #     #
```

BOX size BOX name

With this file, the first box is an "ftyp" box, and its size is 0x18 bytes (the figure in the frame in red).
In a case of an FMT error, the first box size is 0 or a value that exceeds the file size (impossible value for the MPEG4 file format).
If the box size is 1, the data that are framed in dotted green lines in the above figure are treated as the box size.

Possible cause 2: Failure in data reading during file analysis

How to diagnose: Check the ATA error log on the Debug screen.

How to check the ATA error log:

Display the ATA error log page by pressing [ESC], [DISP], [2], then [DIG/ANA], in that order.
The first 4 digits denote date, and the next 6 digits denote time. Check if the date and time match those when an error was generated during AAC playback.
You can switch between Writer and HDD data, using [FRM/TIM]. Switch according to the type of medium being played back.
For USB, there is no log for reading errors.

Possible causes for a DEC error
Possible cause 1: An error notification was issued by the decoder, because there was an error in the stream.
How to diagnose: Play back the file on the PC to check if an error is generated.

Possible cause 2: Data reading failed while the data were being transmitted to the decoder.
How to diagnose: Check the ATA error log on the Debug screen.
* See "How to check the ATA error log," above.

A "CH" error does not occur during AAC playback.

Possible causes for a QNT error
Possible cause 1: The encoding method is not 16-bit quantization.
How to diagnose: Check the number of quantization bits, using a PC analysis tool.

Possible cause 2: After data reading failed, an erroneous number of quantization bits was obtained.
How to diagnose: Check the ATA error log on the Debug screen.
* See "How to check the ATA error log," above.

Possible causes for a BPS error
Possible cause 1: The average bit rate exceeded 480 Kbps.
How to diagnose: Check the average bit rate, using a PC analysis tool.

Possible cause 2: After data reading failed, an erroneous average bit rate was obtained.
How to diagnose: Check the ATA error log on the Debug screen.
* See "How to check the ATA error log," above.

Possible causes for an FS error
Possible cause 1: The sampling frequency was less than 8 KHz or greater than 96 KHz.
How to diagnose: Check the sampling frequency, using a PC analysis tool.

Possible cause 2: After data reading failed, an erroneous sampling frequency was obtained.
How to diagnose: Check the ATA error log on the Debug screen.
* See "How to check the ATA error log," above.

Possible causes for a BOX error
Possible cause 1: An impossible box size was obtained during box analysis.
How to diagnose: Check the box size, using a PC analysis tool.

Possible cause 2: Data necessary for playback could not be obtained.
How to diagnose: Analyze the file, using a PC analysis tool, and check that SAMPLE DESCRIPTION BOX, TIME TO SAMPLE BOX, SAMPLE SIZE BOX (SAMPLE SIZE 2 BOX), SAMPLE TO CHUNK BOX, CHUNK OFFSET BOX (64BIT CHUNK OFFSET BOX) exist.

Possible cause 3: SAMPLE DESCRIPTION BOX, which signifies that audio streams are contained, did not exist.
How to diagnose: Check the binary data of the file with which this error was generated and confirm that the 20th byte does not indicate "mp4a." (A DRM file may also have this error.)

Possible cause 4: "AudioSpecificConfig" was not described in "SAMPLE DESCRIPTION BOX," which should show that an audio stream is contained.
How to diagnose: Check AudioSpecificConfig, using a PC analysis tool.

Possible cause 5: Data reading failed during file analysis.
How to diagnose: Check the ATA error log on the Debug screen.
* See "How to check the ATA error log," above.

Possible causes for a PRF error
Possible cause 1: Audio streams were not contained in "AAC LC" and "High Efficiency AAC Profile."
How to diagnose: Check the type of audio stream in AudioObjectType of AudioSpecificConfig, using a PC analysis tool.

Possible cause 2: After data reading failed, erroneous AudioObjectType data were obtained.
How to diagnose: Check the ATA error log on the Debug screen.
* See "How to check the ATA error log," above.

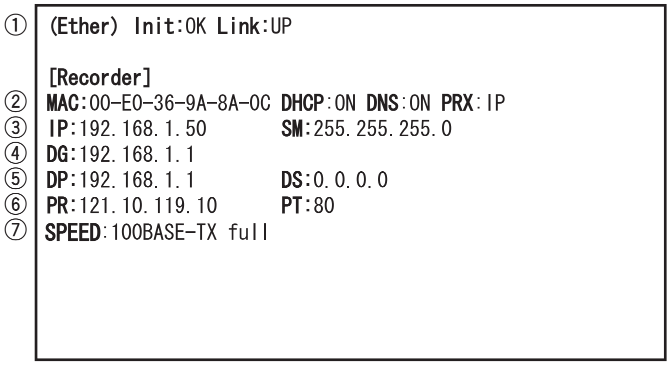
Possible causes for an MEM error
Possible cause 1: The shared memory region for the system was fragmented, and the memory region of 4,096 bytes that was necessary for file analysis could not be ensured.
How to diagnose: After setting the unit to Standby mode, turn the unit back on and check if an MEM error is generated.
If it is, the system memory may be defective.

6.12 DIAGNOSTIC PROCEDURES WHEN CONNECTING THE LAN

[Purpose]
Diagnose based on Ethernet connection information.

[How to Enter]
Press [ESC], [DISP], [+10], [+10], then [7], in that order.

[1] Specifications of the Ether Debug Screen



```
① (Ether) Init:OK Link:UP

  [Recorder]
② MAC:00-E0-36-9A-8A-0C DHCP:ON DNS:ON PRX:IP
③ IP:192.168.1.50       SM:255.255.255.0
④ DG:192.168.1.1
⑤ DP:192.168.1.1        DS:0.0.0.0
⑥ PR:121.10.119.10      PT:80
⑦ SPEED:100BASE-TX full
```

In bold print: Fixed indications
In regular print: Variable indications

No.	Name	Descriptions	Remarks
①	Init	Whether initialization of LAN9211 (Ethernet Controller) has been completed successfully (OK) or not (NG)	In a case of NG, communication between the LAN9211 and EMMA2RFEx may have failed.
	Link	Whether the unit is connected to equipment that can communicate through Ethernet and has established links (UP) or not (DOWN)	
②	MAC	MAC address that is set for the unit	
	DHCP	Setting for automatic acquisition of an IP address	
	DNS	Setting for automatic acquisition of a DNS server	
	PRX	Proxy setting	With the Proxy setting ON, when the server assignment method is server name or IP address, NAME or IP is indicated, respectively.
③	IP	IP address that is set for the unit	
	SM	Subnet mask that is set for the unit	
④	DG	Default gateway that is set for the unit	
⑤	DP	DNS server primary address	
	DS	DNS server secondary address	
⑥	PR	With the Proxy setting ON, the server name or IP address is displayed.	With the Proxy setting OFF, - - - is displayed.
	PT	With the Proxy setting ON, the port number is displayed.	With the Proxy setting OFF, - - - is displayed.
⑦	SPEED	Display the communication speed and Duplex mode.	

[2] Simple diagnostic procedures

Sympton: Neither CDDBonline search nor ConnectPC (Ethernet) function.

No.	Screen Position	Check Items and Unit Status	Possible Cause
1	Ether ①	Init indication: OK: Initialization of the Ethernet-associated LSI (IC301) has been successfully completed. NG: Poor communication between the Ethernet-associated LSI (IC301) and HOST microcomputer (IC1001). Initialization of the Ethernet-associated LSI (IC301) has failed.	With NG: Failure in IC301 (the Ethernet Controller). Failure in communication between IC301 and IC1001, defective solder, or failure in power supply.
2	Ether ①	Link indication: UP: The unit is connected to equipment that can communicate through Ethernet and has established links. DOWN: The links are not established.	With DOWN: Defective LAN terminal, poor connection of the ETAB board, defective LAN cable, the router's power is OFF, or the connected equipment cannot communicate through Ethernet.
3	Ether ②	IP indication: Is the IP address set within the ranges shown below? CLASS A: 10.0.0.1 to 10.255.255.254 CLASS B: 172.16.0.1 to 172.31.255.254 CLASS C: 192.168.0.1 to 192.168.255.254	With an IP address that is out of the range described on the left: If automatic acquisition of an IP address is set to ON, check the setting of the router.

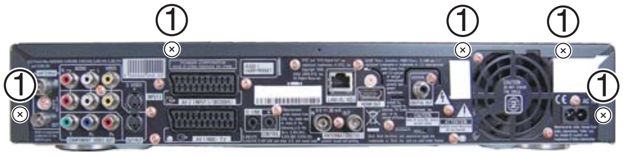
7. DISASSEMBLY

Note 1: Do NOT look directly into the pickup lens. The laser beam may cause eye injury.
Note 2: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Diagnosis

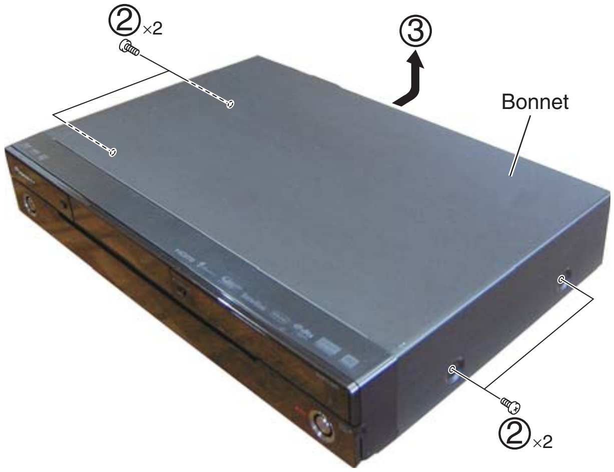
1 Bonnet

① Remove the five screws.



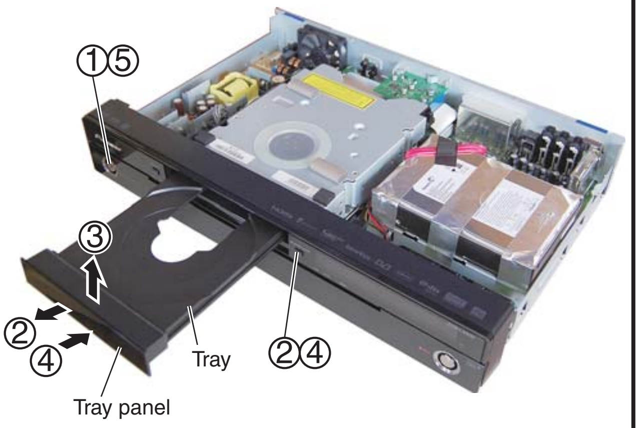
● **Rear view**

② Remove the four screws.
③ Remove the bonnet.


②×2
③
Bonnet
②×2

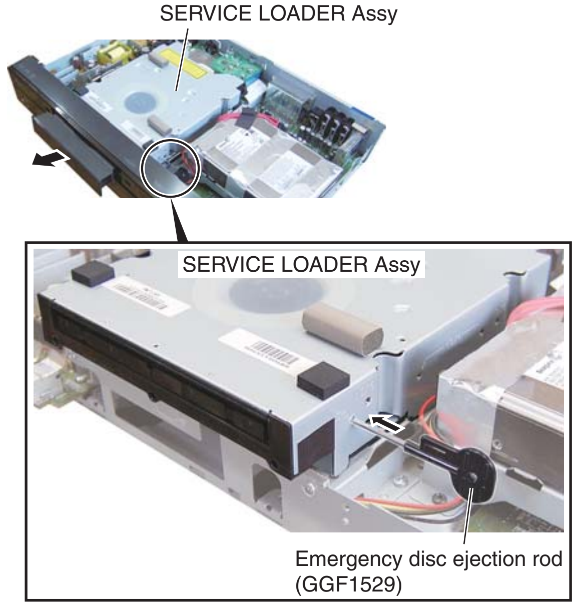
2 Tray Panel

① Press the ⏻ STANDBY/ON button to turn on the power.
② Press the ⏏ OPEN/CLOSE button to open the tray.
③ Remove the tray panel.
④ Press the ⏏ OPEN/CLOSE button to close the tray.
⑤ Press the ⏻ STANDBY/ON button to turn off the power.


①⑤
③
②
④
Tray
②④
Tray panel

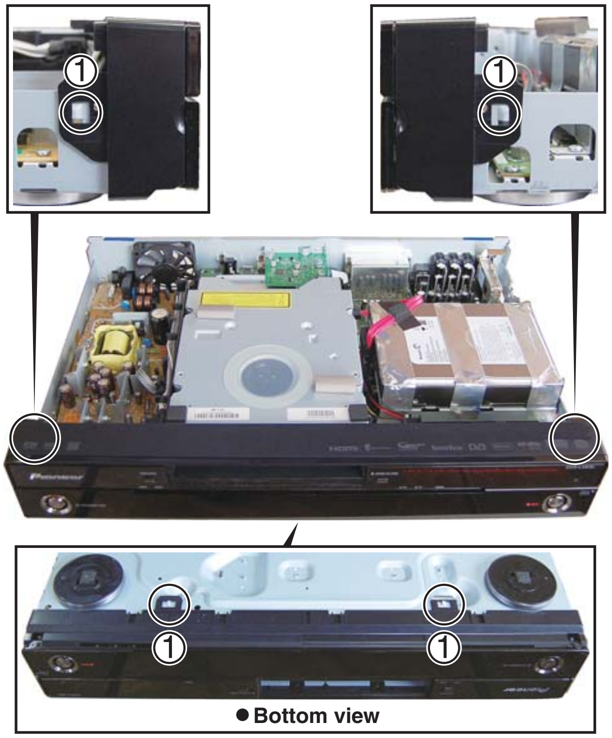
● How to open the tray when the power cannot be turned on

When the tray cannot be opened because the power cannot be turned on, it can be opened using the emergency disc ejection rod (GGF1529). (A long, thin rod about 1 mm in diameter can be used in place of the rod.)


SERVICE LOADER Assy
SERVICE LOADER Assy
Emergency disc ejection rod
(GGF1529)

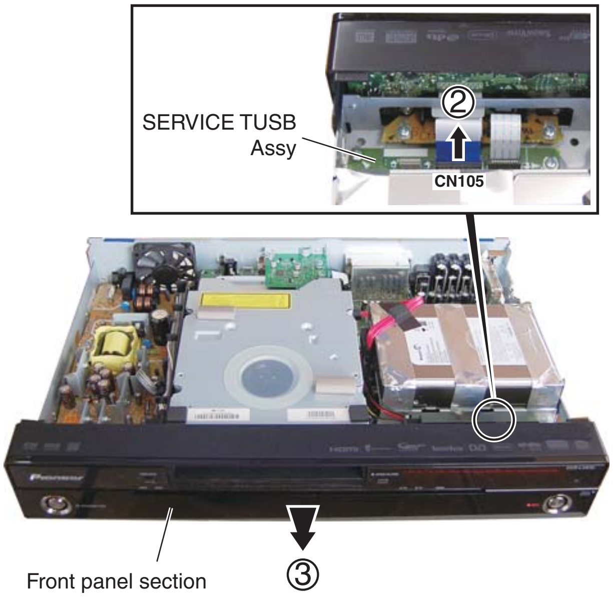
3 Front Panel Section

① Unhook the four hooks.


①
①
①
①
● Bottom view

② Disconnect the one flexible cable.

③ Remove the front panel section.

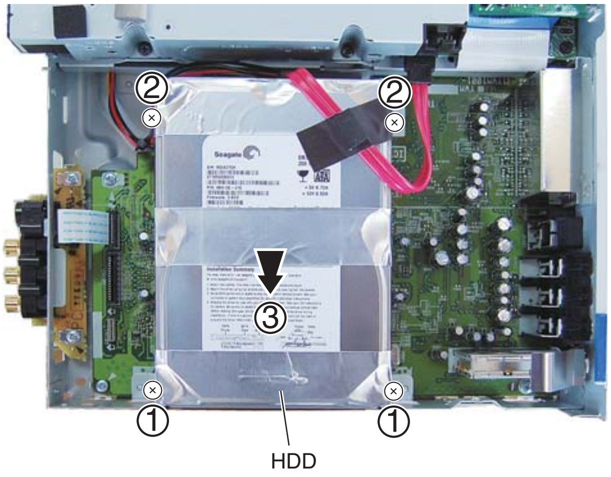

SERVICE TUSB Assy
②
CN105
Front panel section
③

4 HDD

① Remove the two screws.

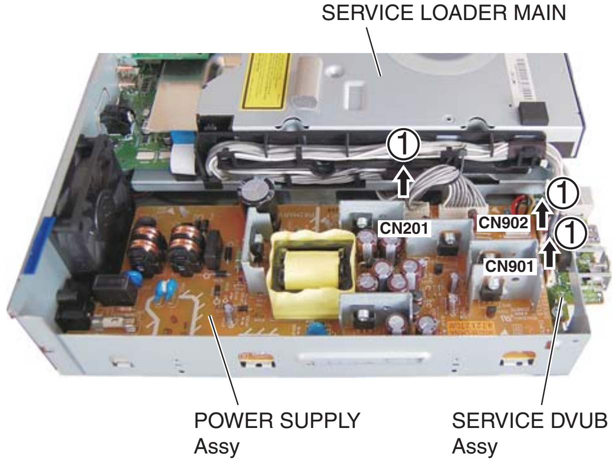
② Remove the two screws.

③ Remove the HDD with the HDD stay.



5 SERVICE LOADER MAIN

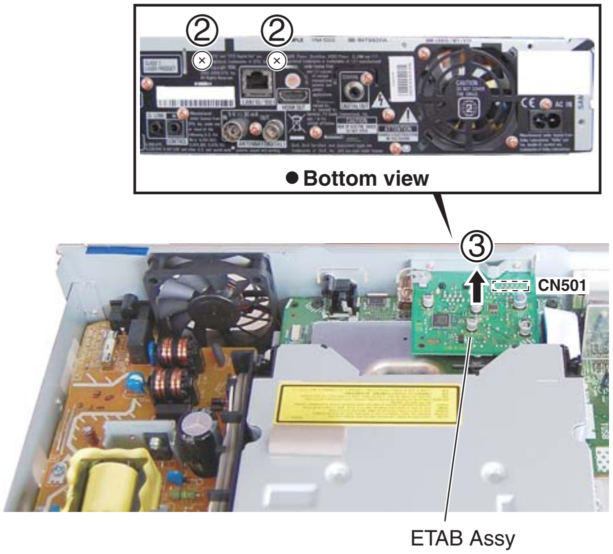
① Disconnect the three connectors.


SERVICE LOADER MAIN
①
CN201
CN902
①
①
CN901
POWER SUPPLY Assy
SERVICE DVUB Assy

DVR-LX61D Only

② Remove the two screws.

③ Remove the ETAB Assy while disconnecting the B to B connector.


②
②
● Bottom view
③
CN501
ETAB Assy

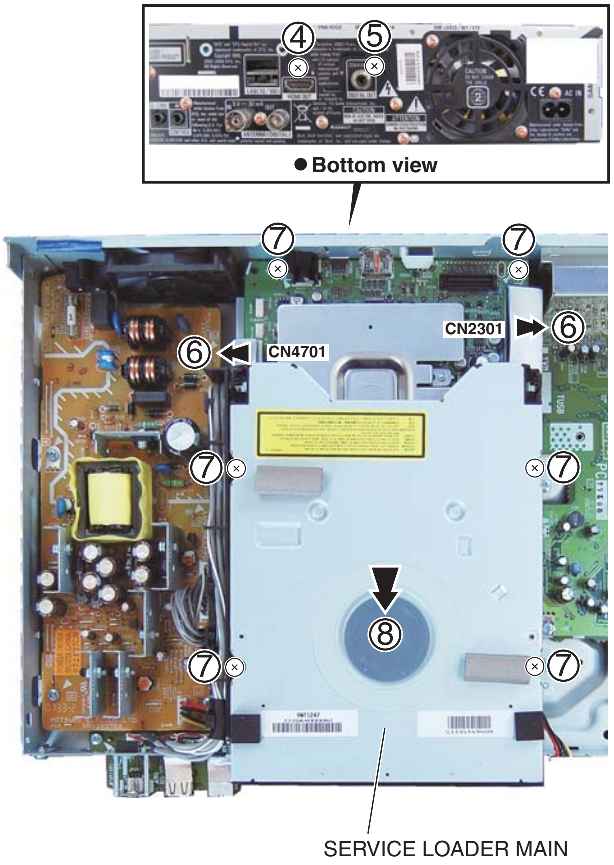
④ Remove the one screw.

⑤ Remove the one screw.

⑥ Disconnect the two flexible cables.

⑦ Remove the six screws.

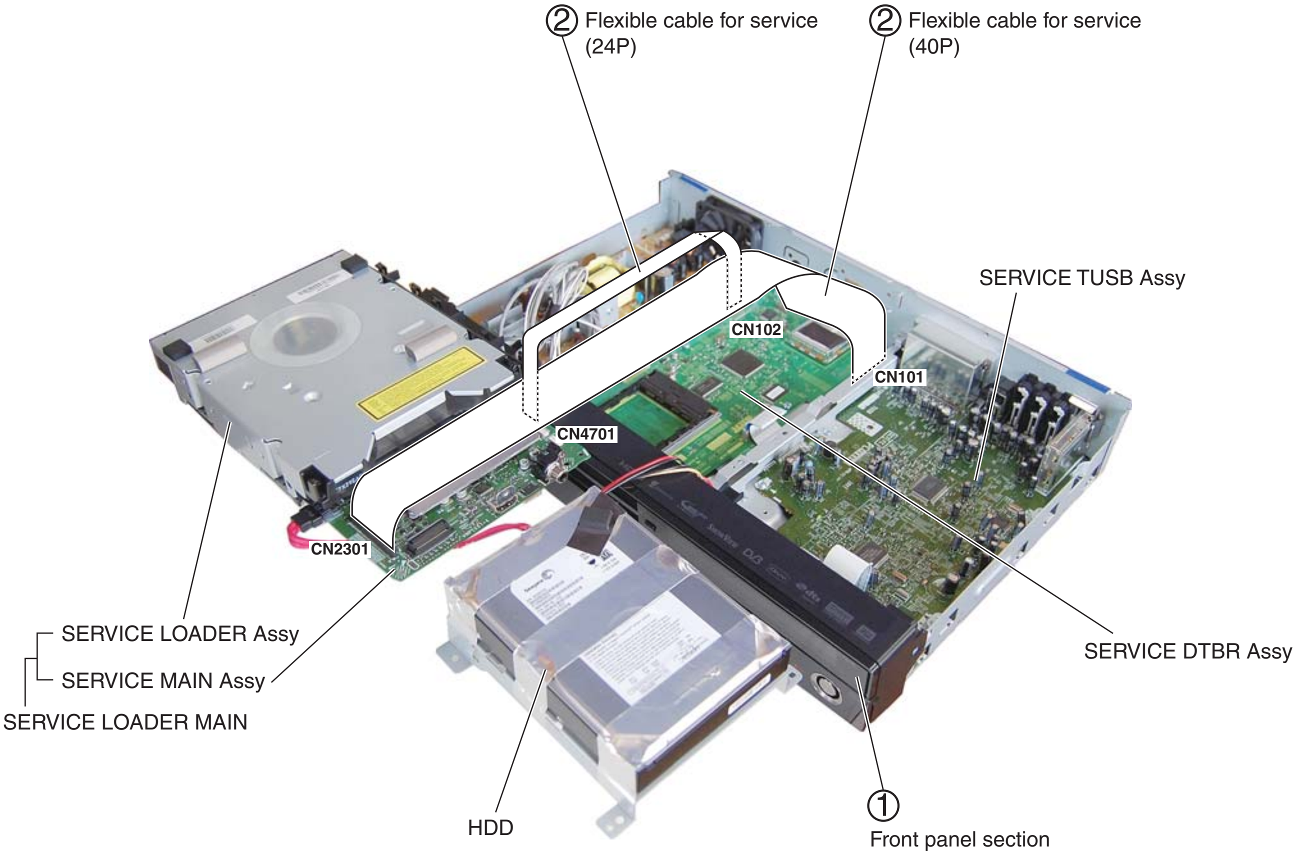
⑧ Remove the SERVICE LOADER MAIN.


④
⑤
● Bottom view
⑦
⑦
CN2301
⑥
⑥
CN4701
⑦
⑦
⑧
⑦
⑦
SERVICE LOADER MAIN

6 Diagnosis

① Reassembling the front panel section.
② Connect the two flexible cables for service.
③ Arrange the unit as shown in the photo below.

Diagnosis

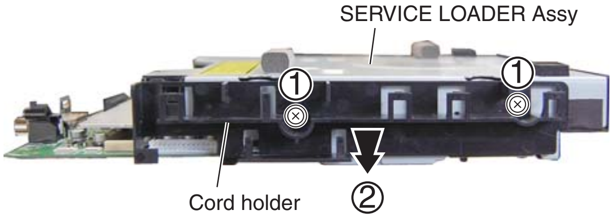

② Flexible cable for service (24P)
② Flexible cable for service (40P)
SERVICE TUSB Assy
CN102
CN101
CN4701
CN2301
SERVICE LOADER Assy
SERVICE MAIN Assy
SERVICE LOADER MAIN
SERVICE DTBR Assy
HDD
① Front panel section

Access to the SERVICE MAIN Assy, Cleaning the Pickup Lens

● Cord Holder

① Remove the two screws.

② Remove the cord holder.

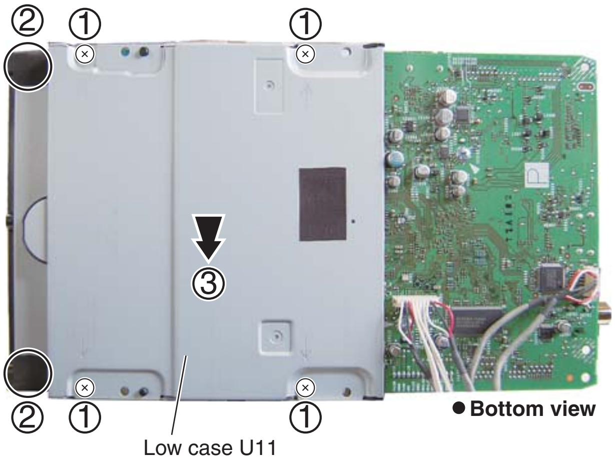

SERVICE LOADER Assy
①
①
Cord holder
②

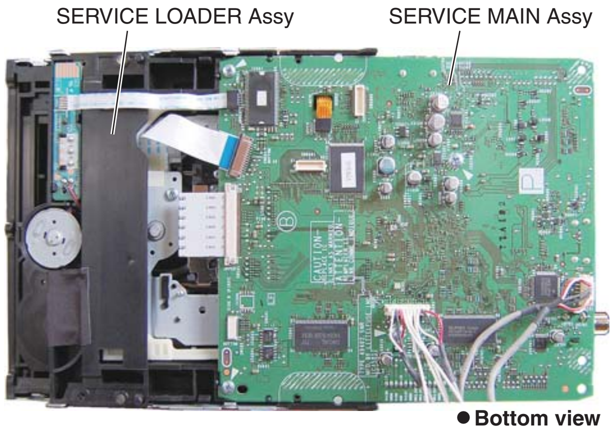
● Low Case U11, Upper Case

① Remove the four screws.

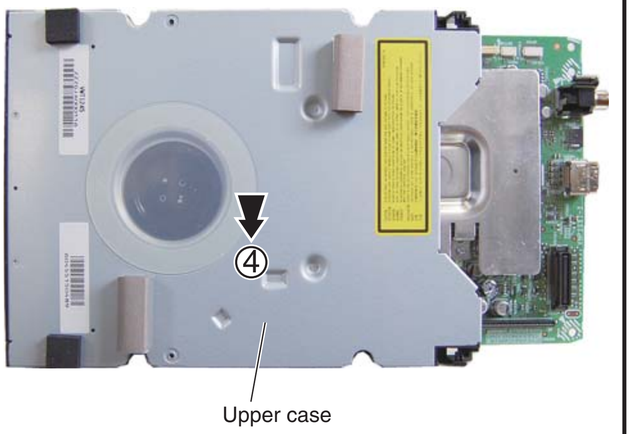
② Remove the two tapes.

③ Remove the low case U11.


②
①
①
③
②
①
①
Low case U11
● Bottom view

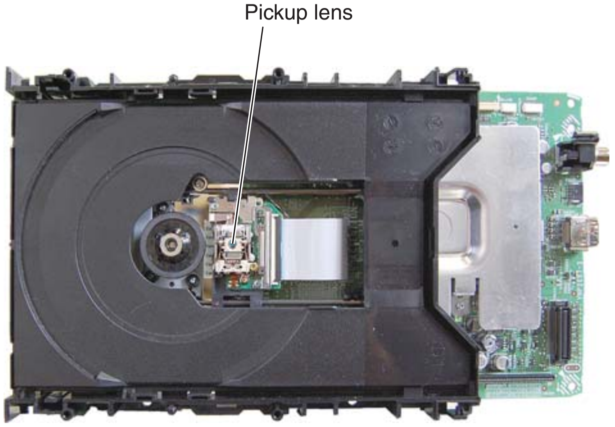

SERVICE LOADER Assy
SERVICE MAIN Assy
● Bottom view

④ Remove the Upper case.


④
Upper case

Before shipment, be sure to clean the pickup lens, using the following cleaning materials:

Cleaning liquid : GEM1004
Cleaning paper : GED-008


Pickup lens

8. EACH SETTING AND ADJUSTMENT

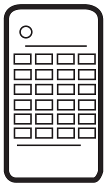
8.1 MODEL SETTING

[Purposes]

When the MAIN Assy and/or TUJB Assy that are(is) commonly used with another model are(is) replaced, they(it) must recognize the model of this unit.

Items to be set: The model number, destination, and region No. must be set.

[Tool to be used]



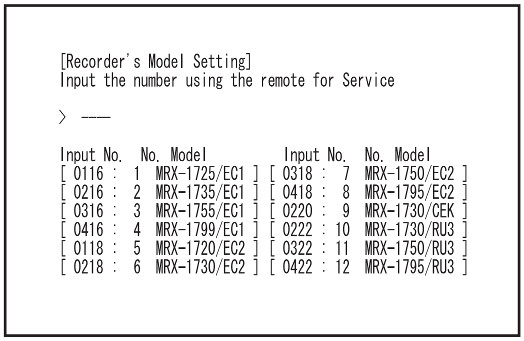
Remote control unit for servicing
(GGF1381)

[Notes]

- Once the setting has been made, it can never be changed. Be sure to make the setting correctly.
- As this setting resets the Assy(s) in question to the factory-preset status, it is recommended that you obtain the customer's consent beforehand.

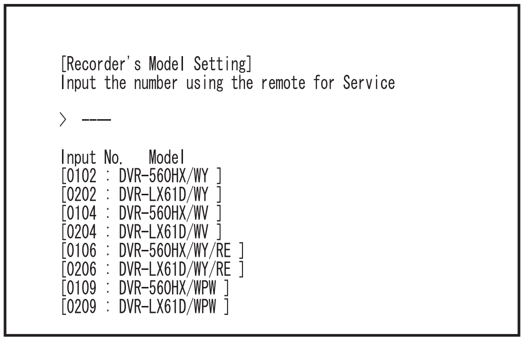
[Procedures]

① After the unit is turned on, the model name for the original equipment manufacturer is displayed on the TV monitor screen. Input "9696" on the remote control unit for service to change it to the model name for Pioneer.



```
[Recorder's Model Setting]
Input the number using the remote for Service

> ----

Input No.  No. Model           Input No.  No. Model
[ 0116 :  1  MRX-1725/EC1 ] [ 0318 :  7  MRX-1750/EC2 ]
[ 0216 :  2  MRX-1735/EC1 ] [ 0418 :  8  MRX-1795/EC2 ]
[ 0316 :  3  MRX-1755/EC1 ] [ 0220 :  9  MRX-1730/CEK ]
[ 0416 :  4  MRX-1799/EC1 ] [ 0222 : 10  MRX-1730/RU3 ]
[ 0118 :  5  MRX-1720/EC2 ] [ 0322 : 11  MRX-1750/RU3 ]
[ 0218 :  6  MRX-1730/EC2 ] [ 0422 : 12  MRX-1795/RU3 ]
```

② The following screen is displayed on TV monitor.
Press four digits properly by using the remote control unit for service,
according to the screen information.

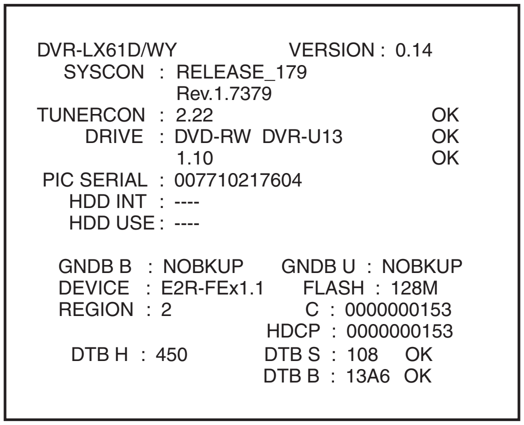


```
[Recorder's Model Setting]
Input the number using the remote for Service

> ----

Input No.   Model
[0102 : DVR-560HX/WY ]
[0202 : DVR-LX61D/WY ]
[0104 : DVR-560HX/WV ]
[0204 : DVR-LX61D/WV ]
[0106 : DVR-560HX/WY/RE ]
[0206 : DVR-LX61D/WY/RE ]
[0109 : DVR-560HX/WPW ]
[0209 : DVR-LX61D/WPW ]
```

③ Disconnect then reconnect the AC power cord of the unit. Be careful not to impart vibration to the unit immediately after the AC power cord is disconnected.

④ Reset the recorder to all its factory settings.
(Make sure that the recorder is on. Press and hold ■ (STOP) key and press ⏻ (STANDBY/ON) key on the front panel.)
The recorder turns off with all settings reset.

⑤ Press [ESC] then [DISP] keys by using the remote control unit for servicing, and then confirm each Model Name.



```
DVR-LX61D/WY                    VERSION : 0.14
    SYSCON  :  RELEASE_179
               Rev.1.7379
 TUNERCON  :  2.22                        OK
     DRIVE  :  DVD-RW  DVR-U13            OK
               1.10                       OK
 PIC SERIAL  :  007710217604
    HDD INT  :  ----
    HDD USE :  ----

   GNDB B  :  NOBKUP      GNDB U  :  NOBKUP
   DEVICE  :  E2R-FEx1.1     FLASH  :  128M
   REGION  :  2                  C  :  0000000153
                             HDCP  :  0000000153
    DTB H  :  450           DTB S  :  108    OK
                            DTB B  :  13A6   OK
```

⑥ End

8.2 LD POWER ADJUSTMENT

[Purposes]

If a combination of a main board and PU is changed, the LD power adjustment and adjustment for disc judgment needs to be made for a new combination of the main board and PU since the adjusted LD-power value becomes inappropriate for the new combination and stable playback and recording to disc becomes impossible.

[Tools to be used]

GGF1381 : Service Remote Control Unit
GGV1054 : CD-ROM (CDT-313)
GGV1036 : DVD-ROM DL (DVDT-002)
GGV1278 : Blank DVD-R (That's DR-C12WTY5PA)
GGV1282 : Blank DVD-RW (JVC VD-W120XH5)
GGV1284 : Blank DVD-RAM (maxell DRM120C.1P5S)

[Notes] Never turn the power off while any of the following operations is in progress:

- While laser diode (LD) power adjustment is being performed normally by the unit
- While adjustment for disc judgment is being performed

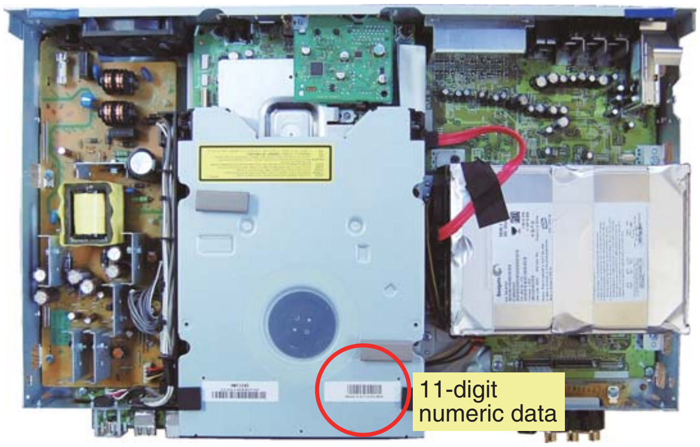
[Explanation on each adjustment mode]

- Drive Adjustment Mode

  This mode is used to select each mode for LD power adjustment.
  In this mode, you can confirm an 11-digit number provided for the LD power adjustment.
  The 11-digit number is stored in FLASH (IC1102) of the main board.

- PU Data Setting Mode

  This mode is used to enter an 11-digit number provided for the LD power adjustment.
  If you have changed a combination of the main board and PU, enter an 11-digit number marked on the case of a loader which is provided in pairs with PU.
  The LD power adjustment is made by using this 11-digit number.



- Power Adjustment Mode

  This mode is used to execute the LD power adjustment and to check the progress of the adjustment.
  In case an error occurs during the adjustment, you can also check the error details in this mode.

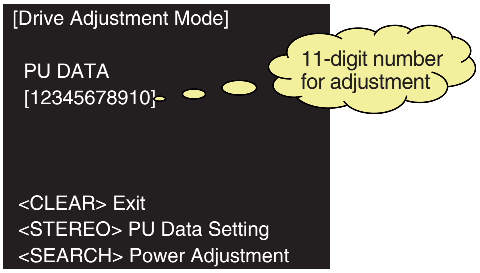
[How to enter Drive Adjustment Mode]

To enter the Drive Adjustment Mode, press [ESC]+[CX]+[1]+[0] on the remote control unit for service.

Though the LD power adjustment can be executed irrespective of the product functions, do not operate the product during the LD power adjustment to prevent misadjustment.

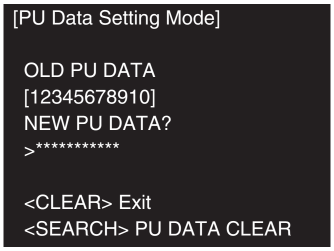
[Operation procedure]

1. When you enter the Drive Adjustment Mode, the following screen is displayed. On this screen, you can check 11-digit numeric data stored in FLASH of MAIN Assy, and can also switch over between each mode.



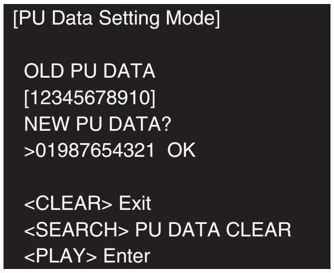
```
[Drive Adjustment Mode]

  PU DATA
  [12345678910]



 <CLEAR> Exit
 <STEREO> PU Data Setting
 <SEARCH> Power Adjustment
```

2. To enter the PU Data Setting Mode, press [STEREO] on the remote control unit for service. Entering the PU Data Setting Mode displays the following screen.



```
[PU Data Setting Mode]

  OLD PU DATA
  [12345678910]
  NEW PU DATA?
  >***********

  <CLEAR> Exit
  <SEARCH> PU DATA CLEAR
```

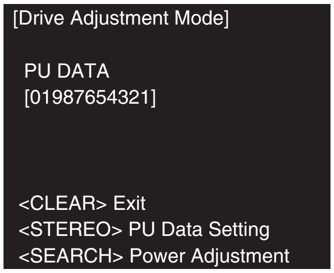
3. By pressing [0] to [9] keys on the remote control unit for service, enter an 11-digit number marked on the case of a loader provided in pairs with PU. Entering the 11-digit number displays the following screen.



```
[PU Data Setting Mode]

  OLD PU DATA
  [12345678910]
  NEW PU DATA?
  >01987654321  OK

  <CLEAR> Exit
  <SEARCH> PU DATA CLEAR
  <PLAY> Enter
```

4. To enter the 11-digit number, press [PLAY] on the remote control unit for service. The 11-digit number contains 2-digit checksum data to prevent input errors. The screens displayed for the correct/incorrect check sum are as follows.

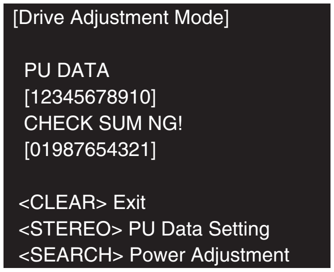
When the checksum is correct



```
[Drive Adjustment Mode]

  PU DATA
  [01987654321]



 <CLEAR> Exit
 <STEREO> PU Data Setting
 <SEARCH> Power Adjustment
```

When the checksum is correct
Enter the Power Adjustment Mode and execute the LD power adjustment, as described in 5.

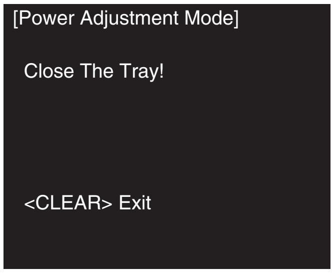
When the checksum is incorrect



```
[Drive Adjustment Mode]

  PU DATA
  [12345678910]
  CHECK SUM NG!
  [01987654321]

 <CLEAR> Exit
 <STEREO> PU Data Setting
 <SEARCH> Power Adjustment
```

When the checksum is incorrect
The input data may be incorrect.
Return to 2 and enter the PU Data Setting Mode to re-enter the 11-digit number.

5. When the checksum is correct, enter the Power Adjustment Mode and execute the LD power adjustment.
   To enter the Power Adjustment Mode, press [SEARCH] on the remote control unit for service.
   Entering the Power Adjustment Mode displays the following screen and opens the tray automatically.

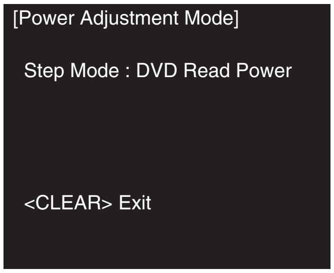

[Power Adjustment Mode]

Close The Tray!

<CLEAR> Exit

When the tray does not open
- Check if flexible cables and wire rods are connected properly.
- Errors in the loader, main board, or power source board are suspected.

6. Close the tray manually to execute the LD power adjustment mode.
   You can check the progress of adjustment in the following screen.


[Power Adjustment Mode]

Step Mode : DVD Read Power

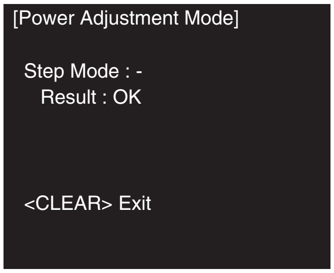
<CLEAR> Exit

Explanation on Step Mode (time needed)
- DVD Read Power (approx. 10 sec.)
  Adjustment of DVD playback power
- RAM Read Power (approx. 20 sec.)
  Adjustment of RAM playback power
- DVD Write Power (approx. 40 sec.)
  Adjustment of DVD recording power
- CD Read Power (approx. 10 sec.)
  Adjustment of CD playback power
- DVD Disc Judgment (approx. 30 sec.)
  Adjustment for DVD disc judgment
- CD Disc Judgment (approx. 30 sec.)
  Adjustment for CD disc judgment

7. When DVD Disc Judgment is displayed in the Step Mode, the tray opens automatically.
   Place DVDT-002 in the tray. The tray closes after 15 seconds from the time it opened.
   If the adjustment for DVD disc judgment is completed successfully, CD Disc Judgment is displayed in the Step Mode.

If the adjustment for DVD disc judgment is not completed successfully
- A disc other than DVDT-002 may have been placed.
  Place DVDT-002 in the tray.

8. When CD Disc judgment is displayed in the Step Mode, the tray opens automatically.
   Place CDT-313 in the tray. The tray closes after 15 seconds from the time it opened.
   If the adjustment for CD disc judgment is completed successfully, the following screen is displayed.
   Since the judgment is completed successfully, press [CLEAR] on the remote control unit for service and exit from the adjustment mode.


[Power Adjustment Mode]

Step Mode : -
Result : OK

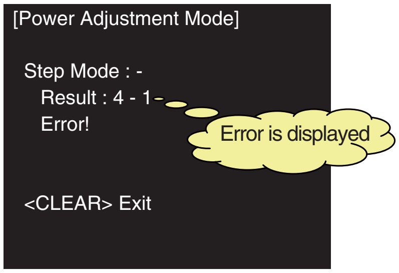
<CLEAR> Exit

If the adjustment for CD disc judgment is not completed successfully
- A disc other than CDT-313 may have been placed.
  Place CDT-313 in the tray.

9. Turn off the power.

[Error information]

In case of errors in the Power Adjustment Mode, the following screen is displayed.



[Power Adjustment Mode]

Step Mode : -
Result : 4 - 1
Error!

<CLEAR> Exit

About error indication

[Left number]

The left number indicates the Step Mode in which the error has occurred.

2: Adjustment of DVD playback power
3: Adjustment of RAM playback power
4: Adjustment of DVD recording power
5: Adjustment of CD playback power
6: Adjustment for DVD disc judgment
7: Adjustment for CD disc judgment

[Right number]

The right number indicates the error information.

1 or 2: Error in the adjustment process
(Details of error)
- The PU flexible cables may not have been connected.
- TM or main board error is suspected.

3: Forced termination
This number is displayed when you pressed [CLEAR] on the remote control unit for service and executed forced termination.

[Contents to check]

1. Record the data to a designated disc (DVD-R / DVD-RW / DVD-RAM) in real time.
2. Measure an error rate at a place where recording is executed.
   Measurement method: Refer to the simplified error rate measurement method in the Service Mode.
3. Check that the error rate is 3.3e-3 or below.

If the error rate is out of specification

- Check if there is any defect or fingerprint on the disc. If you find any problem with the disc, change the disc and try the check again.
- The power adjustment may have been unsuccessful.
  Try the power adjustment again.

If the above two do not solve the problem, a defect with MAIN Assy or PU is suspected.

8.3 CPRM ID NUMBER AND DATA SETTING

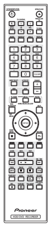
[Purposes]

For the DVD recorder,it is necessary with the recoding/playback of DVD-RW disc to set an individual number (ID number) and ID data to each recorder. If the number and data are not set correctly with the following procedure, cannot work with residual quantity 0:00 or operations in the future may not be guaranteed with RW disc. You will find the ID number to be set on the ID label on the rear panel.

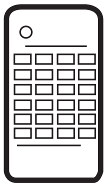
The Input is Necessary When:

- " CPRM ERR" is displayed on the FL display immediately after the power is turned on or in Stop mode.
- When the MAIN ASSY or the HDD is exchanged.

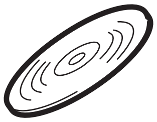
[Tools to be used]



Remote control unit supplied with the unit



Remote control unit for servicing (GGF1381)



DVD Recorder Data Disc (Type 2)

Be sure to use the latest disc (Type 2).
In Apr. 2008, the latest disc is GGV1321.

[Notes]

Important: If no ID label is found on the rear panel, write down the specified ID number by checking it according to "How to confirm the ID number" shown below.

- Input the ID number while the unit is in Stop mode.
- After the data are read from the data disc (Type 2), the disc will automatically be unloaded.

[1] Input Flow of the ID No. and ID Data When Exchanging HDD or MAIN Assy

- When exchanging HDD or MAIN Assy, or both exchanged

When displayed "CPRM ERR"

Power → ON

When displayed following message at Power on
FL Tube : [E01]
CRT display :

An error occured. Please consult the service center. Note that contents on the HDD may be erased when servicing this unit.

When displayed following message at Power on
FL Tube : [CPRM ERR]
CRT display :

CPRM information is not correct.

■ Confirmation of the CPRM ID No.

■ Deletion of the CPRM ID No.(when ID No. is registered.)

■ Input of the CPRM ID No. and ID data

Power → OFF → ON
Normal operation mode

● New HDD/when there is error on recorded contents

● Exchanging to the original HDD(when there is no error on the recorded contents.)

End

When displayed following message at Power on
FL Tube : [E02]
CRT display :

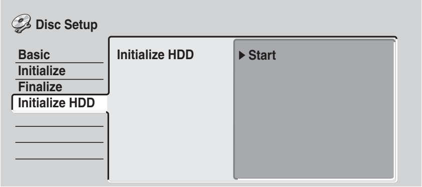
HDD information is not correct. Execute HDD Initialize from the Disc Setup menu.

[CAUTION]

All recorded data are deleted if the HDD is intialized.
Take care that restoration of the user's data recorded on the HDD is totally impossible.
Before servicing, **OBTAIN THE USER'S PRIOR CONSENT** to that effect.

*Use Remote Control of the unit

Execute
HOME MENU → Setup → Disc Setup → Intialize HDD → Initialize HDD → Start



*Goes to normal operation with no caution

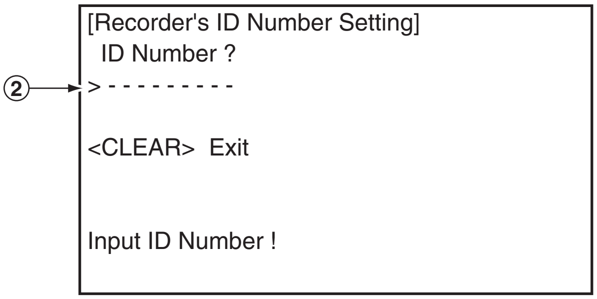
End

After OSD displaying "Finished" after initilaization, reboot.

[2] How to Input the ID Number and ID Data

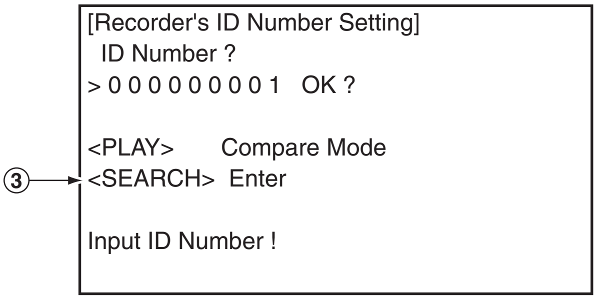
① To enter the input mode, press ESC + STEREO keys sequentially in a status with no ID number set, such as after FLASH-ROM downloading.

② As number input is enabled when the unit enters the input mode, input the 9-digit ID number.
(The entered number is also displayed on the FL display.)



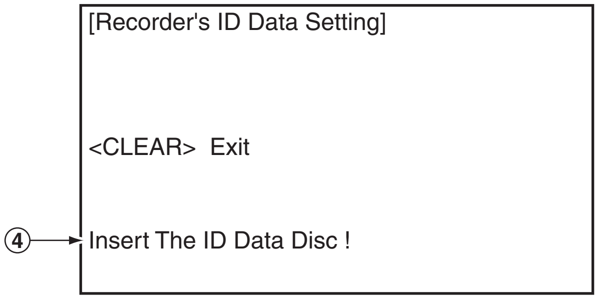
```
[Recorder's ID Number Setting]
  ID Number ?
> - - - - - - - - -

<CLEAR>  Exit


Input ID Number !
```

③ After inputting the number, press SEARCH keys to register the ID number.



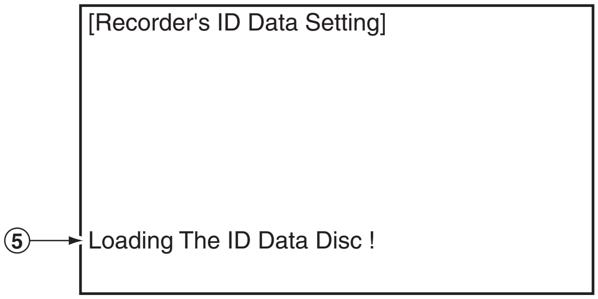
```
[Recorder's ID Number Setting]
  ID Number ?
> 0 0 0 0 0 0 0 0 1   OK ?

<PLAY>       Compare Mode
<SEARCH>  Enter

Input ID Number !
```

④ When the ID number has been registered, the unit enters the ID data input mode. (The FL display indicates "INSERT ID.")
In this condition, place the ID data disc on the tray and close the tray using the CLOSE key "■/⏏" on the player.



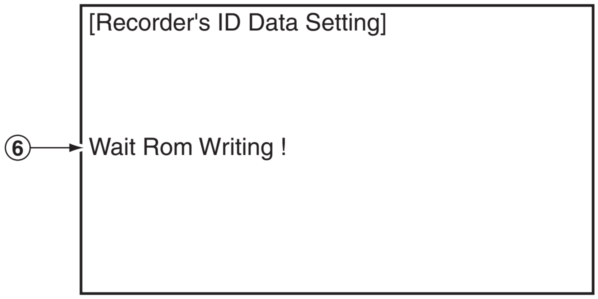
```
[Recorder's ID Data Setting]



<CLEAR>  Exit



Insert The ID Data Disc !
```

⑤ While the data are being read, the message shown in the figure at left is displayed on the screen.
(The FL display indicates "LOAD ID.")



```
[Recorder's ID Data Setting]






Loading The ID Data Disc !
```

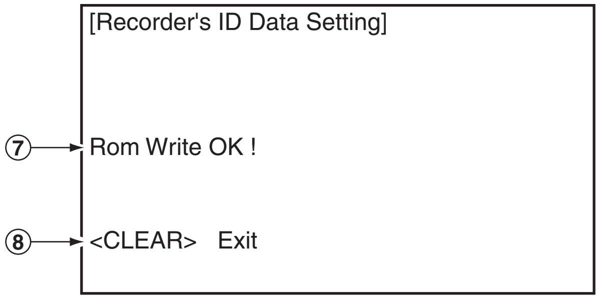
⑥ When the ID data have been read, the data are written to the FLASH-ROM.
(The FL display indicates "WRITE ID.")



```
[Recorder's ID Data Setting]



Wait Rom Writing !
```

⑦ When the ID data have been written to the FLASH-ROM, the message "Rom Write OK" is displayed on the screen.
(The FL display indicates "ID OK.")

⑧ After confirming this message, press CLEAR key to exit the input mode.



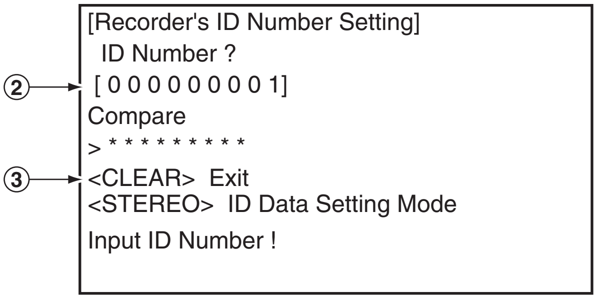
```
[Recorder's ID Data Setting]



Rom Write OK !


<CLEAR>   Exit
```

[How to Confirm the ID Number]

① Press ESC + STEREO keys sequentially with an ID number already set, and the unit enters the ID number confirmation mode.

② The set ID number is displayed on the screen (and on the FL display), permitting you to confirm it.

③ To exit this mode, press CLEAR key.

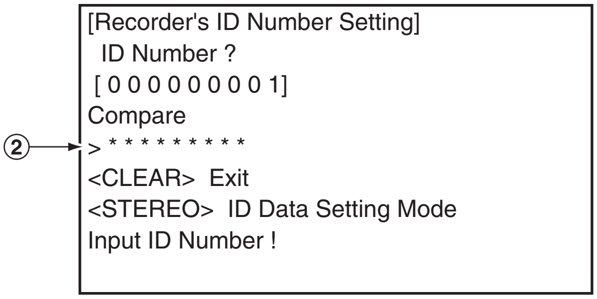


```
[Recorder's ID Number Setting]
  ID Number ?
 [ 0 0 0 0 0 0 0 0 1]
Compare
> * * * * * * * * *
<CLEAR>  Exit
<STEREO>  ID Data Setting Mode
Input ID Number !
```

[How to Clear the ID Number]

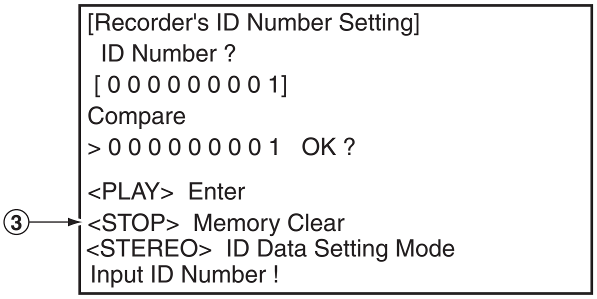
① Press ESC + STEREO keys sequentially with an ID number already set, and the unit enters the ID number confirmation mode.

② Input the same number as the ID number you have set.



```
[Recorder's ID Number Setting]
  ID Number ?
 [ 0 0 0 0 0 0 0 0 1]
Compare
> * * * * * * * * *
<CLEAR>  Exit
<STEREO>  ID Data Setting Mode
Input ID Number !
```

③ After inputting the number, press STOP key.
Only when the entered number matches the set ID number, the ID number is cleared and the unit exits this mode.
If the numbers do not match, you must return to step ②.
(STOP key is not accepted until 9 digits are entered.)



```
[Recorder's ID Number Setting]
  ID Number ?
 [ 0 0 0 0 0 0 0 0 1]
Compare
> 0 0 0 0 0 0 0 0 1   OK ?
<PLAY>  Enter
<STOP>  Memory Clear
<STEREO>  ID Data Setting Mode
 Input ID Number !
```

8.4 FIRMWARE UPDATE METHOD

[Purposes]

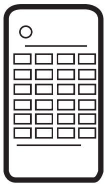
1. When the main board is replaced, the firmware versions for the system control computer, drive, and the TUFL microcomputer do not match, and operations of the unit may be destabilized.
   To match the versions for the above three, firmware downloading is necessary in the following cases:
   ① After the model setting
   ② When NG is displayed on the first screen (version information, etc.) of Service mode
   ③ After changing MAIN Assy or TUSB Assy

2. Rewriting the firmware to the latest version may ameliorate the symptoms claimed by the customer.

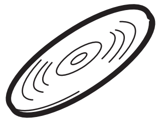
There are the following two methods for update: disc update and serial update

[1] Disc Update

[Tools to be used]



Remote control unit
for servicing
(GGF1381)



Firmware Update Disc
(Refer to Page 99.)

[Notes]

Be sure NOT to turn off the unit during update.
If the unit is turned off during update, the SYSCON, TUNERCON, DRIVE programs may not be properly rewritten, in which case the unit may not be able to initialize itself normally when turned on again.

[Procedure]
① Open a disc tray by pressing the "OPEN/CLOSE" button.
② Put the update disc on the tray. Press a " OPEN/CLOSE " button while pressing a "Record Stop" button on the frontpanel.
* The disc tray closes automatically and the disc is loaded.
* The disc tray opens automatically after loading.

FL display

LOAD
↓
DISC DWLD

③ Take out the Download Disc.
↓
DOWNLOAD-2 SYSCON download
↓
DOWNLOAD-3 FrontEnd download

DOWNLOAD-4 TunerCon download
↓
DOWNLOAD-5 DTBCON download It take about 6 minutes.

* After update is completed, the power turns off, and a disc tray closes automatically.
* It takes for about 7-8 minutes until update is completed.

④ The power turns on and press a " ESC " button, then press " DISP " button on the remote control unit for servicing.
⑤ Confirm a firmware release version.
⑥ Press " ESC " button on the remote control unit for servicing in order to exit the test mode.

[Tips]

(1) If the power is not correctly turned on or when the power is shut off during update, proceed as follows before performing update again:

- In a case where update was incorrectly terminated while "DOWNLOAD-2" was displayed on the FL display:
  The SYSCON program will not function correctly.
  If the program cannot be update from the disc or through serial communication, replace the MAIN Assy.

- In a case where update was incorrectly terminated while "DOWNLOAD-3" was displayed on the FL display:
  The DRIVE program will not function correctly.
  If the program cannot be update from the disc, replace the MAIN Assy.

- In a case where update was incorrectly terminated while "DOWNLOAD-4" was displayed on the FL display
  The program for the tuner microcomputer will not function correctly.
  If the program cannot be update from the disc, replace the TUNERCON microcomputer (IC101 : TUSB Assy).

- In a case where downloading was incorrectly terminated while "DOWNLOAD-5" was displayed on the FL display
  The program for the IDTB microcomputer will not function correctly.
  If the program cannot be downloaded from the disc, replace the DTB microcomputer (DTBR Assy).

[2] Serial Update

[Purposes]

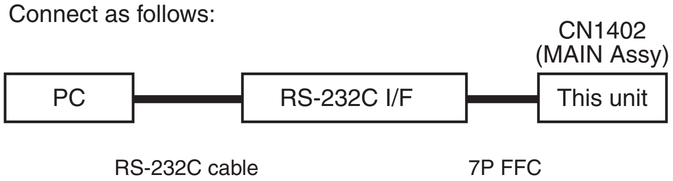
1. This method is used when disc update fails.

[Tools to be used]

* PC with serial port
* RS-232C straight cable
* RS-232C I/F jig (GGF1348)
* 7P FFC (VDA1681)
* Update program (UFU.exe)
* Firmware

[Connection]

Connect as follows:



[Procedures]

① Connect the 232C I/F jigs above way.

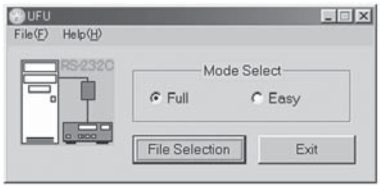
② Turn on the PC and start the " UFU.exe ".

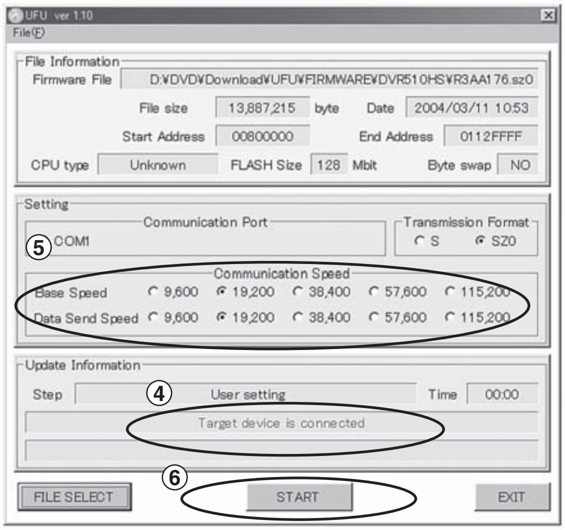
③ Select the Firmware file. ("sz0" file)

④ Turn the DVD recorder on and start the update program.
" Target Device is connected " is appeared on the screen.

⑤ Select the Communication Speed (Baud Rate)
a) Base Speed 115,200
b) Data Send Speed 115,200

⑥ START
- Even if you click "START" button, sometimes "Communication Error" may come out one to twice, and update may fail.
  In this case, please click "START" again.
- Other factors can be considerd if update fails 3 times or more.
- And it takes about 40 minutes for updating the firmware.





Firmware File: D:¥DVD¥Download¥UFU¥FIRMWARE¥DVR510HS¥R3AA176.sz0
File size: 13,887,215 byte
Date: 2004/03/11 10:53
Start Address: 00800000
End Address: 0112FFFF
CPU type: Unknown
FLASH Size: 128 Mbit
Byte swap: NO
Communication Port: COM1
Transmission Format: ○ S ● SZ0
Communication Speed
Base Speed: ○ 9,600 ● 19,200 ○ 38,400 ○ 57,600 ○ 115,200
Data Send Speed: ○ 9,600 ● 19,200 ○ 38,400 ○ 57,600 ○ 115,200
Step: User setting
Time: 00:00
Target device is connected

■ HOW TO PRODUCE A DISC FOR UPDATING

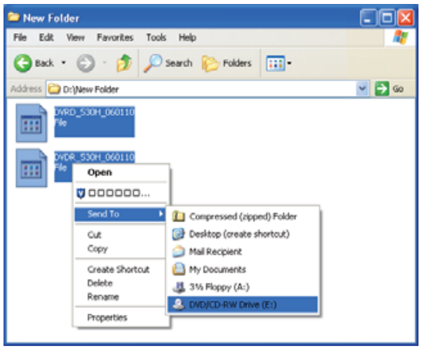
Items necessary for producing a disc (CD-R or CD-RW) for updating

- CD-R/RW drive
- CD-R/RW writing software
- Blank CD-R or CD-RW disc
- Supported OS: Windows 98/98SE/ME/2000/XP *

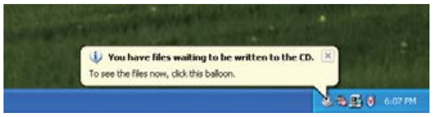
* Other OS's, such as Linux and MacOS, cannot be used.

How to produce a disc for updating

1. Right-click on the icon of the file for updating that you downloaded to any folder and select "Send To" in order to send the file to the drive to be used for writing to the disc.
   * Do NOT change the filename.


New Folder
File Edit View Favorites Tools Help
Back
Search
Folders
Address D:\New Folder
Go
DVRD_530H_060110
File
DVDR_530H_060110
File
Open
□□□□□□□...
Send To
Cut
Copy
Create Shortcut
Delete
Rename
Properties
Compressed (zipped) Folder
Desktop (create shortcut)
Mail Recipient
My Documents
3½ Floppy (A:)
DVD/CD-RW Drive (E:)

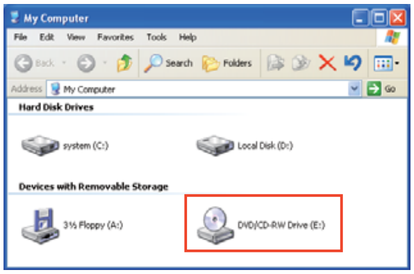
2. An icon appears at the right of the taskbar on the bottom of the screen. Click on it.



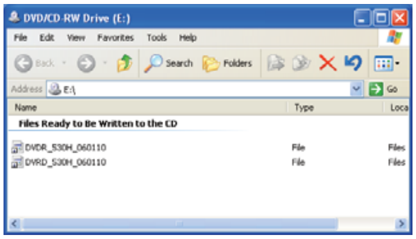
You have files waiting to be written to the CD.

To see the files now, click this balloon.

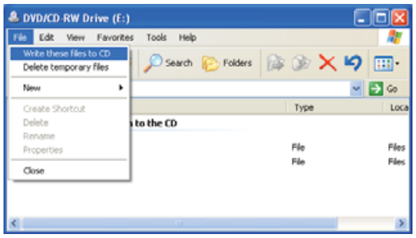
* If the icon does not appear, select the drive to be used for writing to the disc from My Computer.


My Computer
File Edit View Favorites Tools Help
Back
Search
Folders
Address My Computer
Go
Hard Disk Drives
system (C:)
Local Disk (D:)
Devices with Removable Storage
3½ Floppy (A:)
DVD/CD-RW Drive (E:)

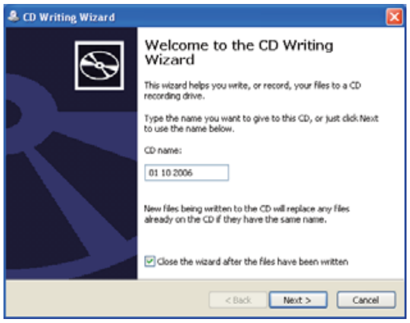
When the PC is ready for writing, the window shown will be displayed.


DVD/CD-RW Drive (E:)
File Edit View Favorites Tools Help
Back
Search
Folders
Address E:\
Go
Name
Type
Loca
Files Ready to Be Written to the CD
DVDR_530H_060110
File
Files
DVRD_530H_060110
File
Files

3. Load a CD-R/RW disc in the drive. Select File then "Write these files to CD" * Be sure to use a blank disc.
   * Scratches or dirt on the disc may result in a failure in writing.


DVD/CD-RW Drive (E:)
File Edit View Favorites Tools Help
Write these files to CD
Delete temporary files
New
Create Shortcut
Delete
Rename
Properties
Close
Search
Folders
Go
to the CD
Type
Loca
File
Files
File
Files

4. The Writing to CD Wizard will be displayed. Click on Next to start writing.



CD Writing Wizard

Welcome to the CD Writing Wizard

This wizard helps you write, or record, your files to a CD recording drive.

Type the name you want to give to this CD, or just click Next to use the name below.

CD name:

01 10 2006

New files being written to the CD will replace any files already on the CD if they have the same name.

☑ Close the wizard after the files have been written

< Back
Next >
Cancel

5. When writing is finished, the disc will be ejected. Production of the disc for updating is completed.

8.5 GRACENOTE DATABASE UPDATE METHOD

[Purposes]

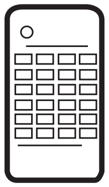
1. Gracenote DB should be stored in build-in HDD to search for audio CD titles.
   After replacing the HDD, it is necessary to download the Gracenote DB.

2. While the GUI screen is not displayed, press the ESC then DISP keys.
   When “NOBKUP” was displayed on the first screen (version information, etc.), update the latest Gracenote Database (GNDB) information.

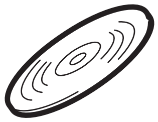
3. Rewriting the database to the latest version may ameliorate the symptoms claimed by the customer.
   (Confirm that the GNDB B and GNDB U are latest version.)

[1] Disc Update

[Tools to be used]



Remote control unit
for servicing
(GGF1381)



Gracenote DB
Update Disc
(Refer to Page 99.)

[Notes]

Be sure NOT to turn off the unit during update.
If the unit is turned off during update, the GNDB programs may not be properly rewritten, in which case the unit may not be able to initialize itself normally when turned on again.

[Procedure] ① Open a disc tray by pressing the "OPEN/CLOSE" button.

② Put the update disc on the tray. Press a " OPEN/CLOSE " button while pressing a "Record Stop" button on the frontpanel.
* The disc tray closes automatically and the disc is loaded.

FL display

LOAD

↓

DISC DWLD

↓

DOWNLOAD-1 GNDB download

*After update is completed, the disc tray opens automatically.
At this time, "DOWNLOAD-1" or "CLOCK" is displayed on the FL display.
*It takes for about 15 minutes until update is completed.

③ Take out the Update Disc.

④ The power turns off. (An effective key is "STANDBY/ON" key.)

⑤ The power turns on and press a " ESC " button, then press " DISP " button on the remote control unit for servicing.

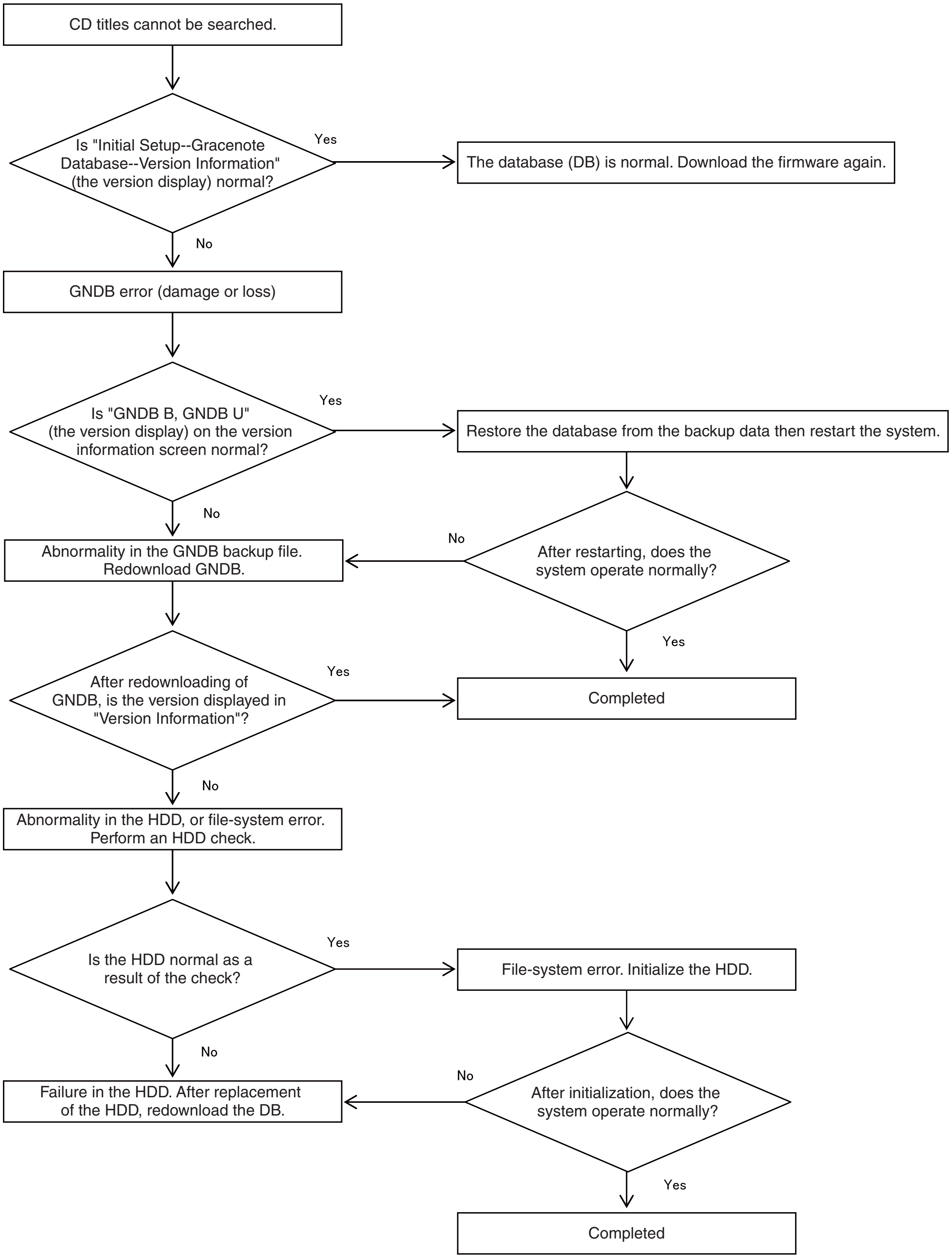
⑥ Confirm a GNDB B and GNDB U version.

⑦ Press " ESC " button on the remote control unit for servicing in order to exit the test mode.

[Tips]

Note: If the AC power fails during updating, the HDD may be damaged.

[Diagnosis Flowchart]

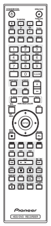

CD titles cannot be searched.
Is "Initial Setup--Gracenote Database--Version Information" (the version display) normal?
Yes
The database (DB) is normal. Download the firmware again.
No
GNDB error (damage or loss)
Is "GNDB B, GNDB U" (the version display) on the version information screen normal?
Yes
Restore the database from the backup data then restart the system.
No
Abnormality in the GNDB backup file. Redownload GNDB.
No
After restarting, does the system operate normally?
Yes
Completed
After redownloading of GNDB, is the version displayed in "Version Information"?
Yes
No
Abnormality in the HDD, or file-system error. Perform an HDD check.
Is the HDD normal as a result of the check?
Yes
File-system error. Initialize the HDD.
No
Failure in the HDD. After replacement of the HDD, redownload the DB.
No
After initialization, does the system operate normally?
Yes
Completed

8.6 VIDEO ADJUSTMENT FOR SPECIFIC AREA

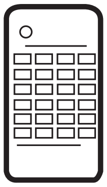
[Purposes]

Depending on the area, if a flicker may appear in a picture received by the tuner, it can be corrected or reduced with this setting.

[Tools to be used]



Remote control unit supplied with the unit



Remote control unit for servicing (GGF1381)

[1] Specific-Channel Setting Mode

In this mode, specific settings can be made for up to 12 channels.
For channels that do not have specific settings, the settings of General Setting mode are applied.

[How to enter this mode]

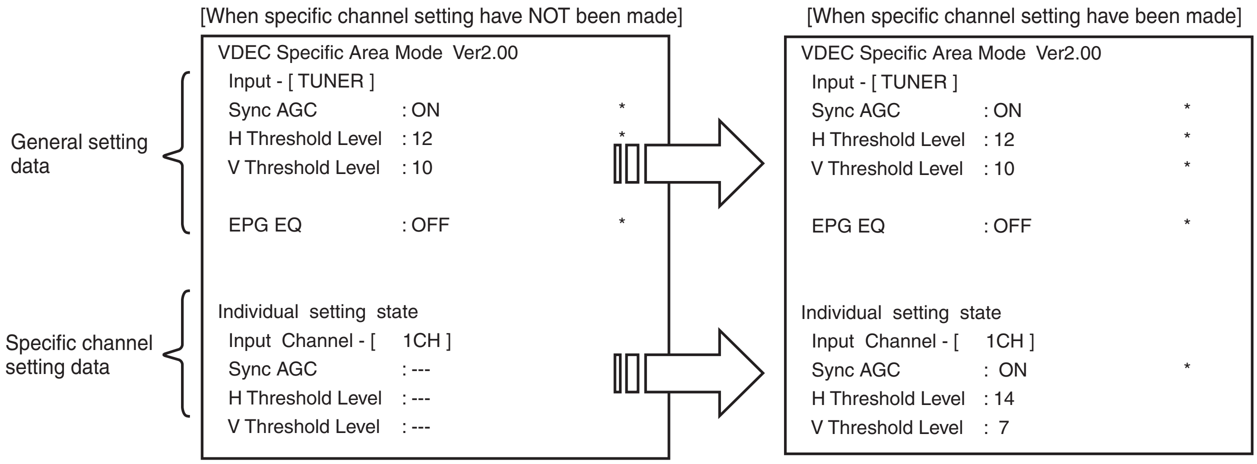
① Select a channel or line input (L1-L3) on which a specific setting is to be made.
② Press the ESC then CHP/TIM keys on the remote control unit for servicing. "General Setting mode" is displayed.
③ Press the DIG/ANA key in General Setting mode. Specific-Channel Setting mode is entered.

[How to exit] Press the ESC key on the remote control unit for servicing to return the Normal mode.

[Note] Setting is in effect only during recording/playback stop.

[Setting examples]

The setting examples in Specific-Channel Setting mode are shown below.
For details on each setting item, see "Table 1: Key operations in Specific-Area Setting mode."



[When specific channel setting have NOT been made]

```
VDEC Specific Area Mode  Ver2.00
 Input - [ TUNER ]
 Sync AGC           : ON          *
 H Threshold Level  : 12          *
 V Threshold Level  : 10

 EPG EQ             : OFF         *


Individual  setting  state
 Input  Channel - [  1CH ]
 Sync AGC           : ---
 H Threshold Level  : ---
 V Threshold Level  : ---
```

[When specific channel setting have been made]

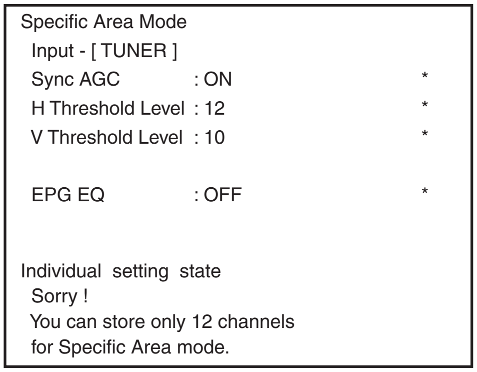
```
VDEC Specific Area Mode  Ver2.00
 Input - [ TUNER ]
 Sync AGC           : ON          *
 H Threshold Level  : 12          *
 V Threshold Level  : 10          *

 EPG EQ             : OFF         *


Individual  setting  state
 Input  Channel - [  1CH ]
 Sync AGC           :  ON         *
 H Threshold Level  : 14
 V Threshold Level  :  7
```

[Tips]

- If a channel that does not have specific settings is displayed, the setting figures are displayed as hyphens (- -).
- If the setting figures are not displayed as hyphens, those settings have been specifically set even if they are identical to the default settings or those of General Setting mode.
- The setting indicated with an asterisk (*) is the default.
- The channels to be indicated for "Input Channel" are as shown below:
  Line inputs: L1-L3, DV (DV is not valid for specific-area settings.)
  Tuner channels: Channels received by the tuner (channels to be set in Specific-Channel Setting mode, etc.)

[Tips]

- Indication when the maximum number (12) of channels have individual settings
  If a channel that does not have specific settings is currently selected, the indication will be as shown below, and individual data items cannot be set for that channel. To set individual data items for the currently selected channel, you must clear any specific-channel settings for one or more channels.



```
Specific Area Mode
 Input - [ TUNER ]
 Sync AGC           : ON              *
 H Threshold Level  : 12              *
 V Threshold Level  : 10              *

 EPG EQ             : OFF             *


Individual  setting  state
 Sorry !
 You can store only 12 channels
 for Specific Area mode.
```

[H Threshold Level]
The slice level setting for the horizontal(H)-sync separation circuit can be changed. By your changing the slice level, horizontal sync disturbance may be ameliorated. Set the slice level to a value with which the least sync disturbance is seen.

[V Threshold Level]
The slice level setting for the vertical(V)-sync separation circuit can be changed. By your changing the slice level, vertical sync disturbance may be ameliorated. Set the slice level to a value with which the least sync disturbance is seen.

[Receiver sensitivity setting for an electronic program guide (EPG)]
The sensitivity when receiving an electronic program guide can be selected. Set the sensitivity to "High" only if reception is unstable.

[2] General Setting Mode

[How to enter this mode]

- To shift from Specific-Channel Setting mode:
  Each time the DIG/ANA key is pressed, Specific-Channel Setting mode and General Setting mode are alternately selected.

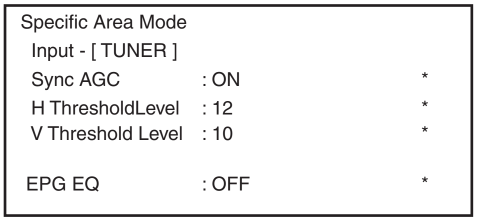
- To shift from Normal mode (recording/playback stop):
  Press the ESC then CHP/TIM keys.

[How to exit] Press the ESC key to return the normal mode.

[Setting examples]

Show setting example on the General Setting mode screen to the following.
Regarding setting of actual each item, refer to table 1 (key operations in specific-area setting mode).

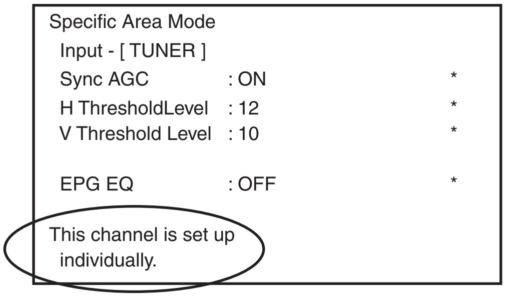
[General Setting mode screen]



```
Specific Area Mode
 Input - [ TUNER ]
 Sync AGC           : ON              *
 H ThresholdLevel   : 12              *
 V Threshold Level  : 10              *

EPG EQ              : OFF             *
```

*: Setting is the default.

[Display in General Setting mode when the channel currently displayed has specific settings]



```
Specific Area Mode
 Input - [ TUNER ]
 Sync AGC           : ON              *
 H ThresholdLevel   : 12              *
 V Threshold Level  : 10              *

 EPG EQ             : OFF             *

This channel is set up
 individually.
```

[Tips]

- General Setting mode can be entered only during recording/playback stop.
- The currently selected input mode (TUNER or LINE) is displayed for "Input."
- If L1, L2, L3, or DV is selected for input, general settings for the line input can be made (DV is not valid for specific-area settings), and if TUNER is selected, general settings for the tuner input can be made.

Table 1: key operations in specific-Area setting mode (1/2)

Key operations in Specific Area Setting mode of the remote control units are shown in the table below
(the keys are of the remote control unit for servicing unless otherwise stated):

Key	Operation	Switching (*: Default)	Remarks	Used in Specific-Channel Setting mode	Used in General Setting mode
[DIG/ANA]	Switches General setting mode and Specific setting mode.	–	–	○	○
[INPUT SELECT], [CHANNEL +/-] (Remote control unit supplied with this unit)	Switches inputs or channels.	–	–	○	○
[SIDE A] , [SIDE B]	Sets SyncAGC.	ON(*) / OFF	ON : The sync level is set to an appropriate value. OFF : Cancel the Sync AGC.	○	○
[Rev ×3], [×3 Fwd]	Sets H Threshold.	0 – 15 (Default : 12)	[Rev ×3] : Decreasing 1 by 1 in the range 0 to 15. (Cyclic operation) [×3 Fwd] : Increasing 1 by 1 in the range 0 to 15. (Cyclic operation)	○	○
[Rev CHAPTER SKIP] [CHAPTER SKIP Fwd]	Sets V Threshold Level.	0 – 15 (Default : 10)	[Rev CHAPTER SKIP] : Decreasing 1 by 1 in the range 0 to 15. (Cyclic operation) [CHAPTER SKIP Fwd] : Increasing 1 by 1 in the range 0 to 15. (Cyclic operation)	○	○

Table 1: key operations in specific-Area setting mode (2/2)

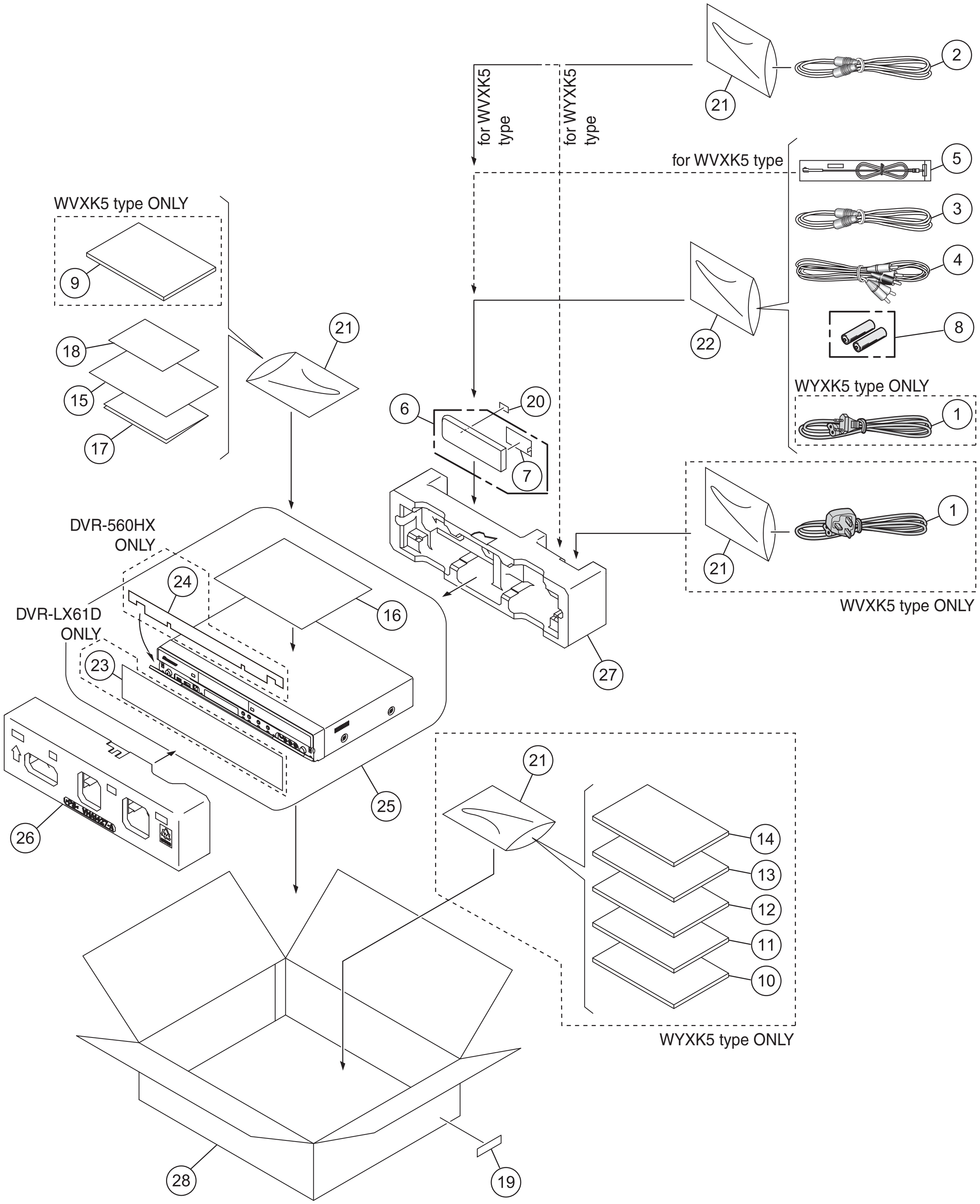
Key	Operation	Switching (*: Default)	Remarks	Used in Specific-Channel Setting mode	Used in General Setting mode
[PLAY]	All channels that have specific setting data will be canceled, and the specific data will be initialized.	–	The General Setting data will not be changed.	○	×
[CLEAR]	Specific-Channel Setting mode: If the currently selected channel has its specific setting, that setting will be canceled. (By canceling the specific setting for that channel, the number of remaining channels that can have specific settings will be increased by one.) General Setting mode: Settings of General Setting mode are initialized.	–	Specific-Channel Setting mode: All specific data are initialized. The General Setting data will not be changed. General Setting mode: All general setting data are reset to default. The specific setting data will not be changed (will be retained).	○	○
[PAUSE]	The specific-channel-setting data for the currently selected channel are reset to default.	–	The General Setting data will not be changed (will be retained).	○	×
[ESC]	To quit Setting mode for a specific area and clear the on-screen display.	–	–	○	○

Notes:
- Each key listed in Table 1 above is active only while the tuner is completely stopped.
- The setting values will not be reset to default even if resetting to the state at the time of shipment is performed.

9. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

9.1 PACKING SECTION



for WVXK5 type
for WYXK5 type
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for WVXK5 type
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WYXK5 type ONLY
1
WVXK5 type ONLY
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21
WVXK5 type ONLY
DVR-560HX ONLY
24
16
DVR-LX61D ONLY
23
27
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10
WYXK5 type ONLY
28
19

(1) PACKING SECTION PARTS LIST

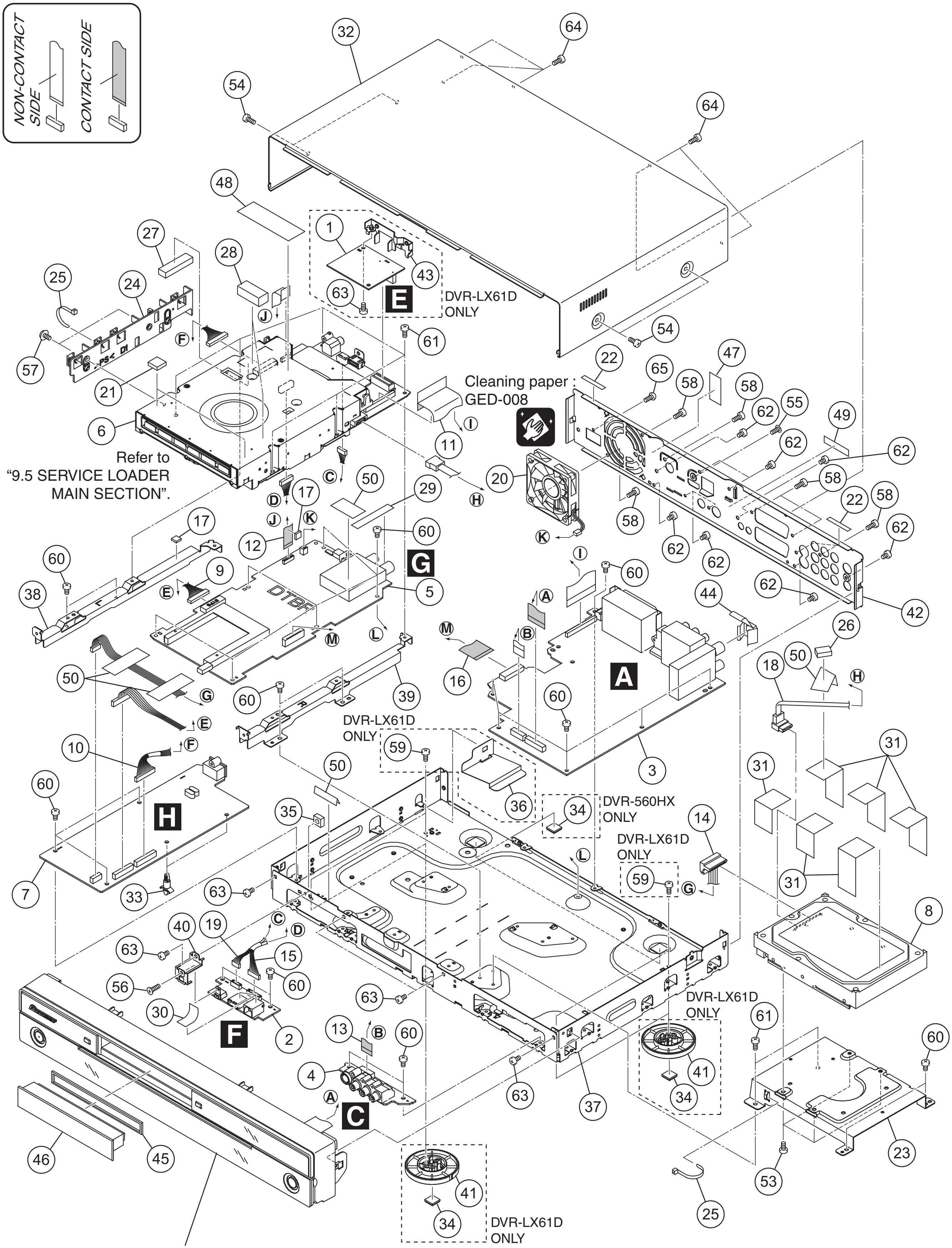
Mark	No.	Description	Part No.
⚠	1	Power Cable	See Contrast table (2)
	2	RF Antenna Cable (PAL)	VDE1095
	3	RF Antenna Cable (PAL)	VDE1075
	4	Audio / Video Cable (1.5 m) (red/white/yellow)	VDE1077
	5	G-Link™ Cable (3 m)	VDX1010
	6	Remote Control	See Contrast table (2)
	7	Battery Cover	VZN1025
NSP	8	Dry Cell Batteries (AA/R6P)	VEM1010
	9	Operating Instructions (English)	See Contrast table (2)
	10	Operating Instructions (French)	See Contrast table (2)
	11	Operating Instructions (German)	See Contrast table (2)
	12	Operating Instructions (Italian)	See Contrast table (2)
	13	Operating Instructions (Dutch)	See Contrast table (2)
	14	Operating Instructions (Spanish)	See Contrast table (2)
	15	HDD Caution 8L	VRR1072
	16	HDD Caution 8L B	VRR1077
NSP	17	Warranty Card	ARY7112
NSP	18	Caution Card	VRR1095
NSP	19	Serial Label S	VRW2017
	20	WEEE Label	VRW2231
	21	Polyethylene Bag B5	VHL1051
	22	Polyethylene Bag B5	VHL1088
	23	Nonwoven Cloth Cover	See Contrast table (2)
	24	Mirror Sheet	See Contrast table (2)
	25	Mirror Mat	VHL1095
	26	Front Pad	VHA1425
	27	Rear Pad	VHA1426
	28	Packing Case	See Contrast table (2)

(2) CONTRAST TABLE

DVR-LX61D/WVXK5, WYXK5, DVR-560HX-S/WVXK5, WYXK5, DVR-560HX-K/WVXK5 and WYXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	DVR-LX61D /WVXK5	DVR-LX61D /WYXK5	DVR-560HX-S /WVXK5	DVR-560HX-S /WYXK5	DVR-560HX-K /WVXK5	DVR-560HX-K /WYXK5
⚠	1	Power Cable	ADG7077	ADG1127	ADG7077	ADG1127	ADG7077	ADG1127
	6	Remote Control	VXX3284	VXX3284	VXX3285	VXX3285	VXX3292	VXX3292
	9	Operating Instructions (English)	VRB1487	Not used	VRB1486	Not used	VRB1486	Not used
	10	Operating Instructions (French)	Not used	VRC1458	Not used	VRC1457	Not used	VRC1457
	11	Operating Instructions (German)	Not used	VRC1463	Not used	VRC1462	Not used	VRC1462
	12	Operating Instructions (Italian)	Not used	VRC1467	Not used	VRC1466	Not used	VRC1466
	13	Operating Instructions (Dutch)	Not used	VRC1470	Not used	VRC1469	Not used	VRC1469
	14	Operating Instructions (Spanish)	Not used	VRC1474	Not used	VRC1473	Not used	VRC1473
	23	Nonwoven Cloth Cover	YHL1001	YHL1001	Not used	Not used	Not used	Not used
	24	Mirror Sheet	Not used	Not used	VHL1117	VHL1117	VHL1117	VHL1117
	28	Packing Case	YHG1023	YHG1024	YHG1025	YHG1026	YHG1027	YHG1028

9.2 EXTERIOR SECTION


A
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F
NON-CONTACT SIDE
CONTACT SIDE
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DVR-LX61D ONLY
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Cleaning paper : GED-008
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DVR-LX61D ONLY
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DVR-LX61D ONLY
25

Refer to
“9.5 SERVICE LOADER
MAIN SECTION”.

Refer to
“9.3 FRONT PANEL SECTION (DVR-LX61D)”,
“9.4 FRONT PANEL SECTION (DVR-560HX)”.

(1) EXTERIOR SECTION PARTS LIST

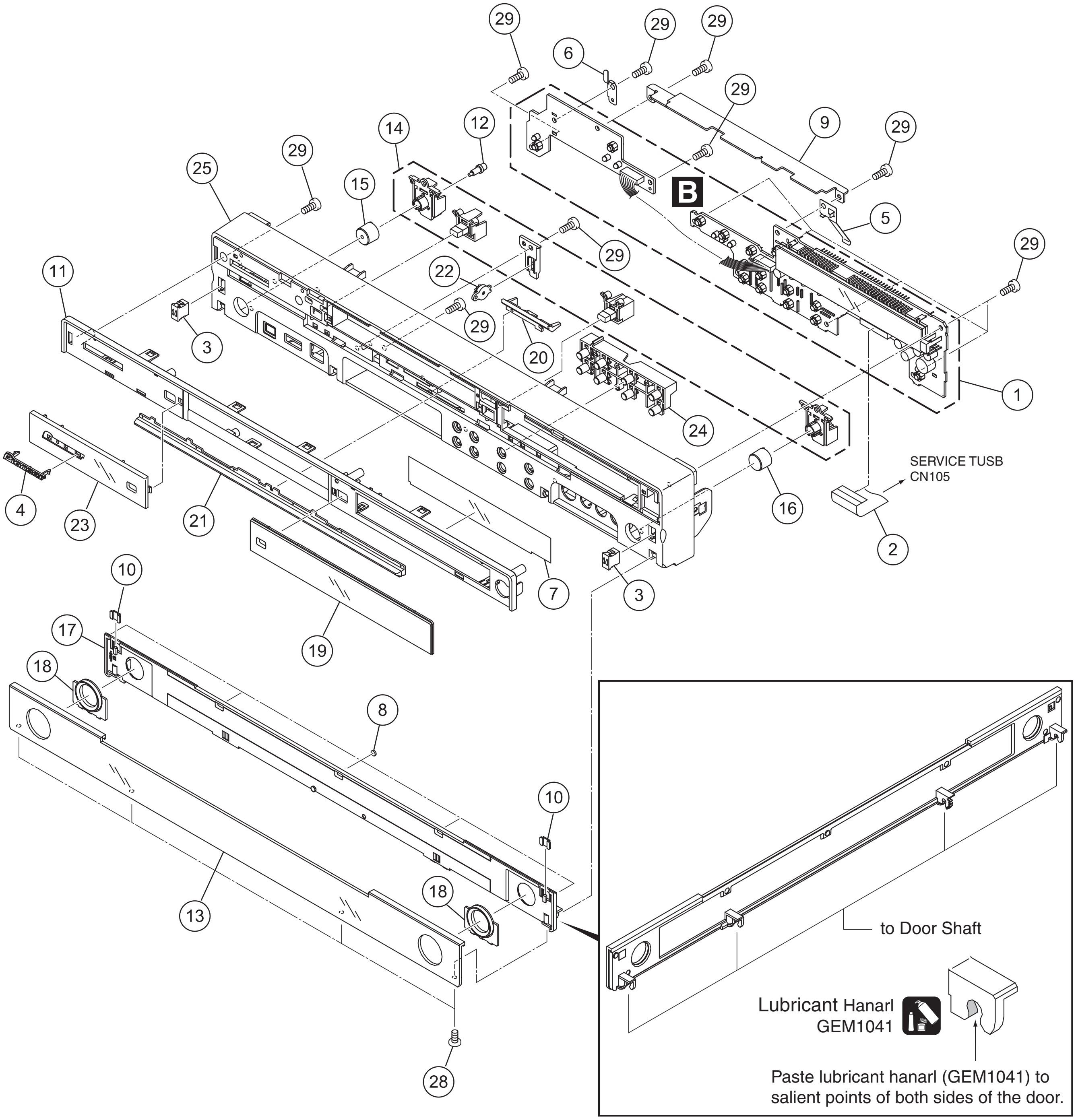
Mark	No.	Description	Part No.
	1	ETAB Assy	See Contrast table (2)
	2	SERVICE DVUB Assy	YXX1001
	3	SERVICE TUSB Assy	YXX1002
	4	SERVICE FRJB Assy	See Contrast table (2)
	5	SERVICE DTBR Assy	VXX3319
NSP	6	SERVICE LOADER MAIN	See Contrast table (2)
⚠	7	POWER SUPPLY Assy	VWR1405
	8	HDD	See Contrast table (2)
	9	Connector Assy	PF12PP-S07
	10	Connector Assy	PF13PP-S17
	11	Flexible Cable (40P)	VDA2159
	12	Flexible Cable (24P)	VDA2160
	13	Flexible Cable (11P)	VDA2162
	14	Housing Assy (4P)	VKP2389
	15	Housing Assy (10P)	VKP2391
	16	Flexible Cable (19P)	YDA1001
	17	Rubber Spacer	VEB1398
	18	SATA Cable	YDX1001
	19	Housing Assy (6P)	YKP1002
	20	DC Fan Motor 60	VXM1123
	21	Spacer Cushion	VEB1400
	22	Cushion	VEB1401
NSP	23	HDD Stay	VNE2450
	24	Cord Holder	VNL1971
NSP	25	Binder (BK-1)	ZCA-BK1
	26	Rubber Spacer	VEB1378
	27	Rubber Spacer	VEB1408
	28	Gasket 30 x 10T	VEC2522
	29	Aluminum Tape 8 x 50	VEF1067
	30	Aluminum Tape 13 x 25	VEF1068
	31	Aluminum Tape 70 x 19	YEF1001
	32	Bonnet S	See Contrast table (2)
	33	PCB Support	AEC1215
	34	Rubber Foot	VEB1349
	35	Screw Guard	VEB1399
	36	Barrier	See Contrast table (2)
NSP	37	Base Chassis	VNB1057
NSP	38	Writer Stay L	VNE2448
NSP	39	Writer Stay R	VNE2449
	40	DV Angle	See Contrast table (2)
	41	Insulator H.S.	See Contrast table (2)
	42	Rear Panel	See Contrast table (2)
	43	LAN Angle	See Contrast table (2)
	44	Earth Plate TU	VBK1173
	45	Tray Sheet	VEC2551
	46	Tray Panel	YNK1038
NSP	47	ID Label Assy	See Contrast table (2)
	48	Laser Caution Label	VRW2262
NSP	49	Serial Label S	VRW2017
NSP	50	Tape	ZTA-156A-19
	51	•••••	
	52	•••••	
	53	#6-32 Screw	DBA1125
	54	Screw	See Contrast table (2)
	55	Screw M3 x 8	See Contrast table (2)
	56	Screw M3 x 8	VBA1088
	57	Screw	AMZ30P060FTC
	58	Screw	See Contrast table (2)
	59	Screw	BPZ30P080FTC
	60	Screw	BSR30P060FTC
	61	Screw	BSR30P080FTB
	62	Screw	See Contrast table (2)
	63	Screw	BSZ30P040FTC
	64	Screw	See Contrast table (2)
	65	Screw	See Contrast table (2)

(2) CONTRAST TABLE

DVR-LX61D/WVXK5, WYXK5, DVR-560HX-S/WVXK5, WYXK5, DVR-560HX-K/WVXK5 and WYXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	DVR-LX61D /WVXK5	DVR-LX61D /WYXK5	DVR-560HX-S /WVXK5	DVR-560HX-S /WYXK5	DVR-560HX-K /WVXK5	DVR-560HX-K /WYXK5
	1	ETAB Assy	VWV2344	VWV2344	Not used	Not used	Not used	Not used
	4	SERVICE FRJB Assy	YXX1027	YXX1027	YXX1004	YXX1004	YXX1004	YXX1004
NSP	6	SERVICE LOADER MAIN	VXU1016	VXU1016	VXU1015	VXU1015	VXU1015	VXU1015
	8	HDD	VXF1131	VXF1131	VXF1152	VXF1152	VXF1152	VXF1152
	32	Bonnet S	YXX1009	YXX1009	YXX1010	YXX1010	YXX1009	YXX1009
	36	Barrier	VEC2548	VEC2548	Not used	Not used	Not used	Not used
	40	DV Angle	VNE2474	VNE2474	VNE2453	VNE2453	VNE2474	VNE2474
	41	Insulator H.S.	VNK6329	VNK6329	Not used	Not used	Not used	Not used
	42	Rear Panel	YNA1038	YNA1038	YNA1040	YNA1040	YNA1028	YNA1028
	43	LAN Angle	YNE1001	YNE1001	Not used	Not used	Not used	Not used
NSP	47	ID Label Assy	VXW1019	VXW1019	VXW1015	VXW1015	VXW1015	VXW1015
	54	Screw	VBA1112	VBA1112	BSZ30P060FTC	BSZ30P060FTC	BSZ30P060FBN	BSZ30P060FBN
	55	Screw	YBA1001	YBA1001	VBA1088	VBA1088	VBA1088	VBA1088
	58	Screw	BPZ30P080FCC	BPZ30P080FCC	BPZ30P080FTC	BPZ30P080FTC	BPZ30P080FTC	BPZ30P080FTC
	62	Screw	BSZ30P040FCC	BSZ30P040FCC	BSZ30P040FTC	BSZ30P040FTC	BSZ30P040FTC	BSZ30P040FTC
	64	Screw	BSZ30P060FCC	BSZ30P060FCC	BSZ30P060FTC	BSZ30P060FTC	BSZ30P060FBN	BSZ30P060FBN
	65	Screw	PPZ30P080FCC	PPZ30P080FCC	PBZ30P080FTC	PBZ30P080FTC	PBZ30P080FTC	PBZ30P080FTC

9.3 FRONT PANEL SECTION (DVR-LX61D)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SERVICE TUSB
CN105
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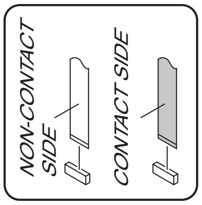
to Door Shaft
Lubricant Hanarl
GEM1041

Paste lubricant hanarl (GEM1041) to salient points of both sides of the door.


NON-CONTACT SIDE
CONTACT SIDE

(1) FRONT PANEL SECTION (DVR-LX61D) PARTS LIST

Mark	No.	Description	Part No.
	1	SERVICE FLKY Assy	YXX1006
	2	Flexible Cable (17P)	YDA1002
	3	Magnet Holder Assy	AEC1077
	4	Pioneer Name Plate	VAM1158
	5	Earth Plate FLKY	VBK1176
	6	Earth Plate	VBK1179
	7	FL Filter	VEC2544
	8	Door Pad	VEC2562
	9	FP Bridge	VNE2464
	10	Magnet Catcher B	VNE2482
	11	Panel Frame	VNK6149
	12	LED Lens	VNK6290
	13	Door Panel	YAH1001
	14	Main Key	YNK1004
	15	Key Top PW	YNK1005

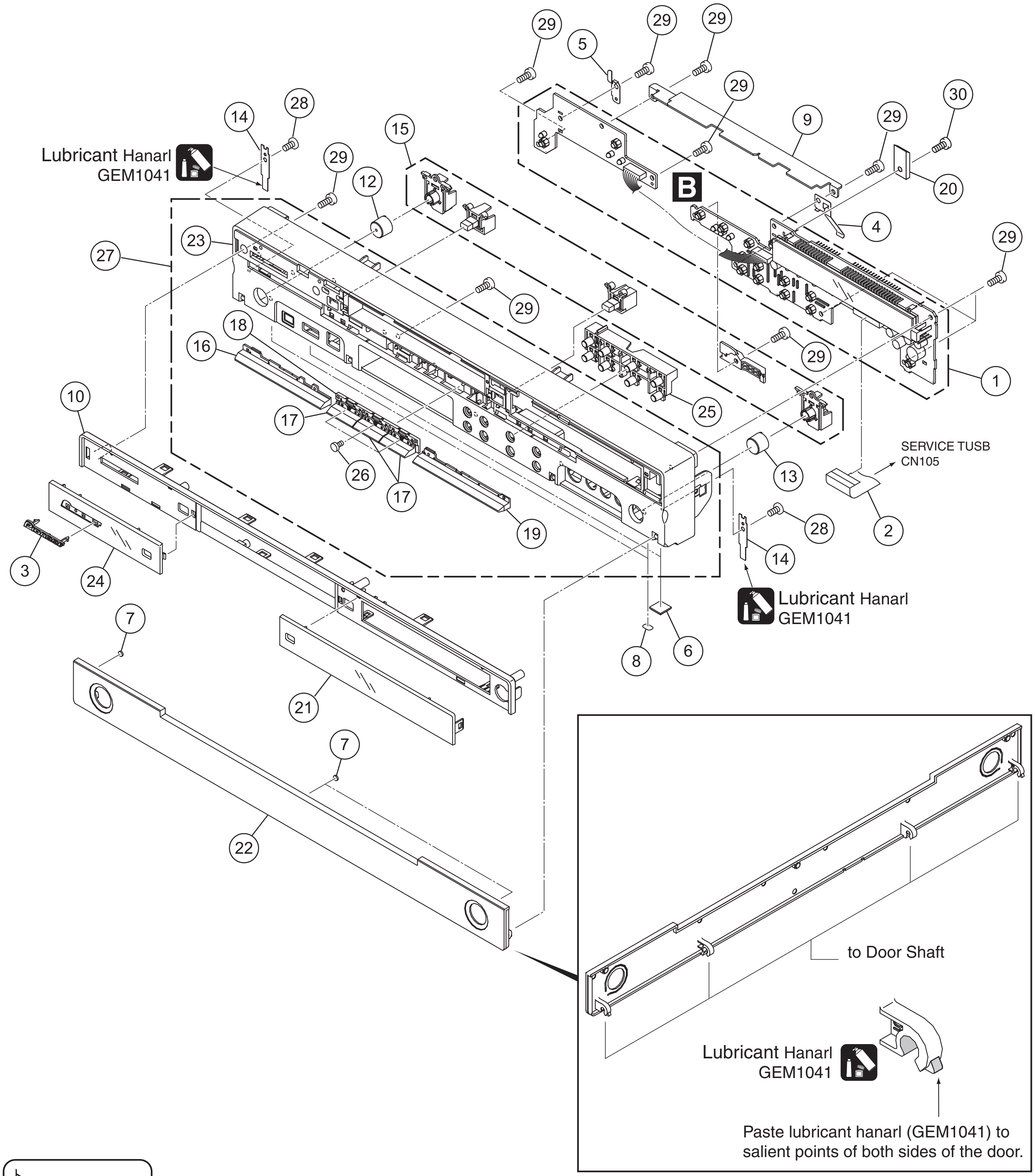
Mark	No.	Description	Part No.
	16	Key Top REC	YNK1006
	17	Door Base	YNK1011
	18	Door Ring	YNK1013
	19	FL Lens	YNK1025
	20	Optical Lens	YNK1035
	21	Center Lens	YNK1034
	22	Damper Assy	YXA1001
	23	Sub Panel PTD	YXA1010
	24	Function Key PTD	YXA1054
	25	Front Panel PTD	See Contrast table (2)
	26	• • • • •	
	27	• • • • •	
	28	Flat Head Screw	VBA1113
	29	Screw	BPZ30P080FTC

(2) CONTRAST TABLE

DVR-LX61D/WVXK5 and DVR-LX61D/WYXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	DVR-LX61D /WVXK5	DVR-LX61D /WYXK5
	25	Front Panel PTD	YXA1044	YXA1025

9.4 FRONT PANEL SECTION (DVR-560HX-S, -K)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19
28
2
14
3
24
7
8
6
21
7
22
SERVICE TUSB
CN105

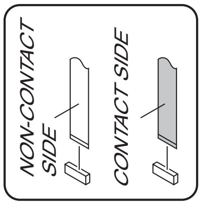
Lubricant Hanarl
GEM1041

Lubricant Hanarl
GEM1041

to Door Shaft

Lubricant Hanarl
GEM1041

Paste lubricant hanarl (GEM1041) to salient points of both sides of the door.


NON-CONTACT SIDE
CONTACT SIDE

(1) FRONT PANEL SECTION (DVR-560HX) PARTS LIST

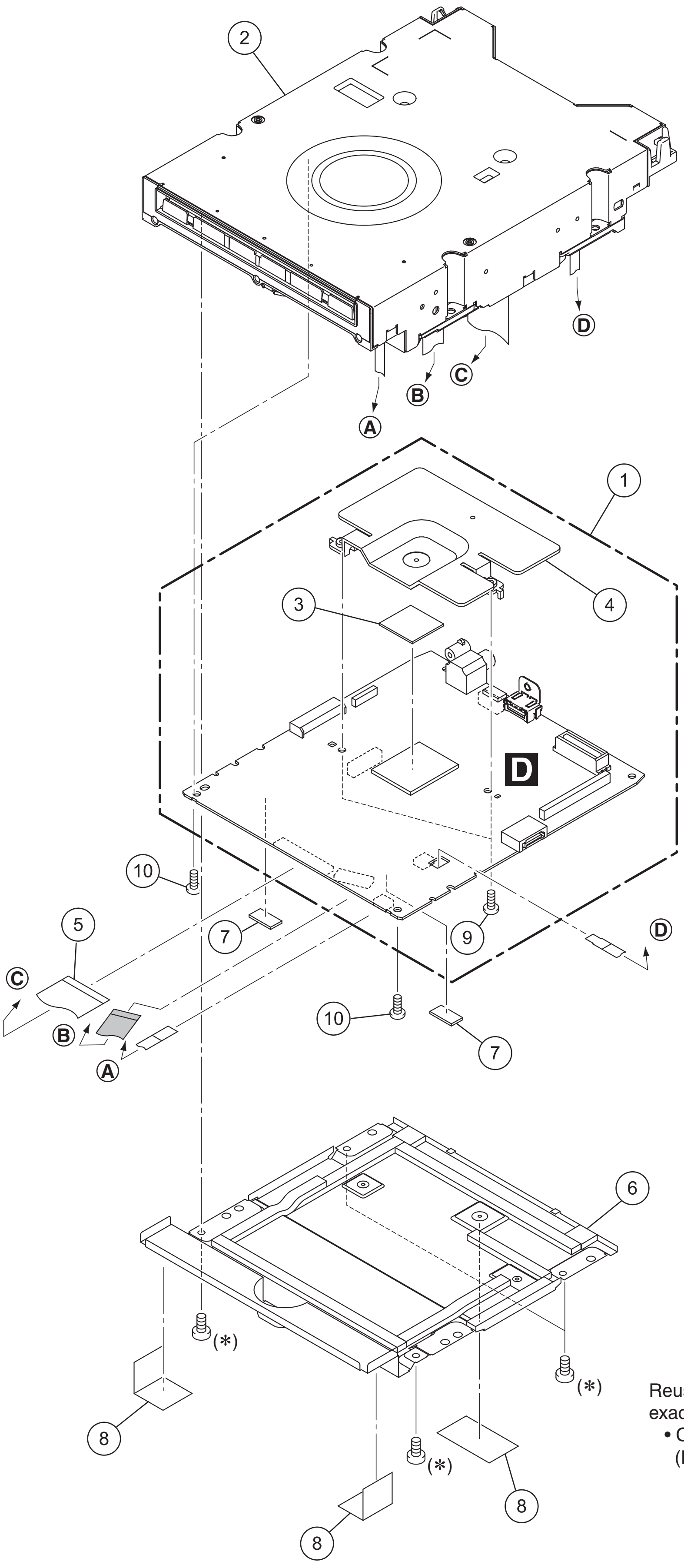
Mark	No.	Description	Part No.
	1	SERVICE FLKY Assy	YXX1005
	2	Flexible Cable (17P)	YDA1002
	3	Pioneer Name Plate	See Contrast table (2)
	4	Earth Plate FLKY	VBK1176
	5	Earth Plate	VBK1179
	6	Rubber Foot	VEB1349
	7	Rubber Sheet	VEB1396
	8	Door Cushion	VEC2561
	9	FP Bridge	VNE2464
	10	Panel Frame	VNK6149
	11	•••••	
	12	Key Top PW	See Contrast table (2)
	13	Key Top REC	See Contrast table (2)
	14	Door Spring	YBK1001
	15	Main Key	YNK1004
NSP	16	Lens L	YNK1007
NSP	17	Key Lens	YNK1009
NSP	18	Key Base	YNK1010
NSP	19	Lens R	YNK1008
	20	FLKB Holder 2	YNK1043
	21	FL Lens PTD	YXA1012
	22	Door PTD	See Contrast table (2)
NSP	23	Front Panel PTD	See Contrast table (2)
	24	Sub Panel PTD	YXA1027
	25	Function Key PTD	See Contrast table (2)
NSP	26	Tray Screw	DBA1327
	27	Front Panel Assy S	See Contrast table (2)
	28	Flat Head Screw	VBA1113
	29	Screw	BPZ30P080FTC
	30	Screw	BPZ30P120FTB

(2) CONTRAST TABLE

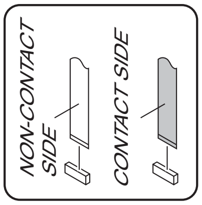
DVR-560HX-S/WVXK5, WYXK5, DVR-560HX-K/WVXK5 and WYXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	DVR-560HX-S /WVXK5	DVR-560HX-S /WYXK5	DVR-560HX-K /WVXK5	DVR-560HX-K /WYXK5
	3	Pioneer Name Plate	VAM1148	VAM1148	VAM1153	VAM1153
	12	Key Top PW	VNK6359	VNK6359	VNK6239	VNK6239
	13	Key Top REC	VNK6361	VNK6361	VNK6240	VNK6240
	22	Door PTD	YXA1013	YXA1013	YXA1034	YXA1034
NSP	23	Front Panel PTD	YXA1045	YXA1026	YXA1046	YXA1033
	25	Function Key PTD	YXA1053	YXA1053	YXA1054	YXA1054
	27	Front Panel Assy S	YXA1072	YXA1071	YXA1075	YXA1074

9.5 SERVICE LOADER MAIN SECTION


2
D
B
C
A
1
4
3
D
10
5
7
9
D
C
B
A
10
7
6
(*)
(*)
8
(*)
8
8

Reuse (∗) marked parts when exachanging SERVICE LOADER Assy.
- Case Screw S (DBA1250) x2


NON-CONTACT SIDE
CONTACT SIDE

(1) SERVICE LOADER MAIN SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	SERVICE MAIN Assy	See Contrast table (2)
	2	SERVICE LOADER Assy	VXX3306
	3	Radiation Sheet (Silicon)	VEB1360
	4	Heatsink	VNH1079
	5	FFC U11	DDX1208
	6	Low Case U11	DNC1761
	7	Silicon Sheet R9B	DEB1726
NSP	8	Tape	• • • • •
	9	Screw	BBZ30P060FTC
	10	Screw	DBA1220

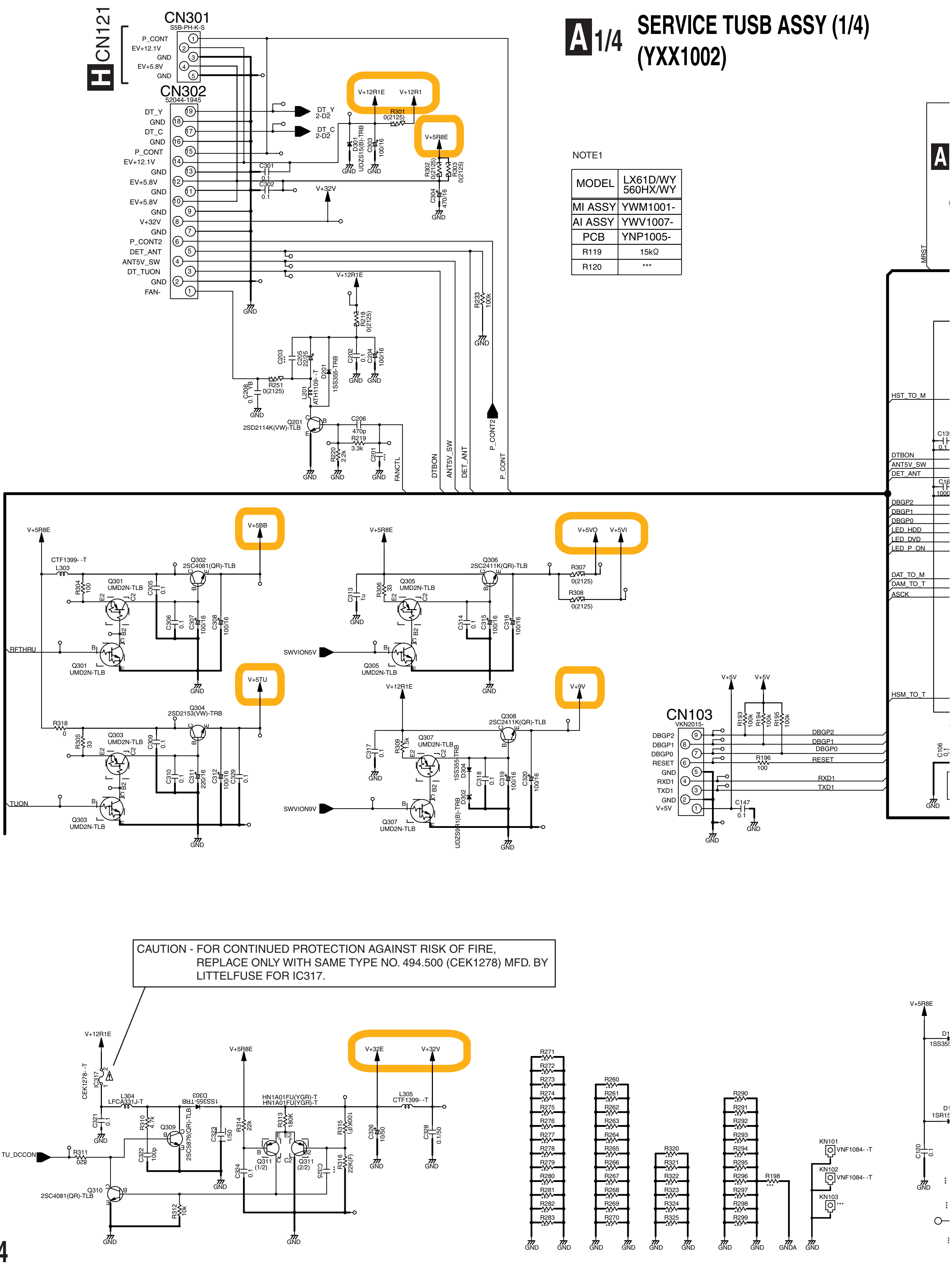
(2) CONTRAST TABLE

DVR-LX61D/WVXK5, WYXK5, DVR-560HX-S/WVXK5, WYXK5, DVR-560HX-K/WVXK5 and WYXK5 are constructed the same except for the following:

Mark	No.	Symbol and Description	DVR-LX61D /WVXK5	DVR-LX61D /WYXK5	DVR-560HX-S /WVXK5	DVR-560HX-S /WYXK5	DVR-560HX-K /WVXK5	DVR-560HX-K /WYXK5
	1	SERVICE MAIN Assy	VXX3320	VXX3320	VXX3321	VXX3321	VXX3321	VXX3321

10. SCHEMATIC DIAGRAM

10.1 SERVICE TUSB ASSY (1/4)


A 1/4 SERVICE TUSB ASSY (1/4) (YXX1002)
H CN121
CN301 S5B-PH-K-S
P_CONT
EV+12.1V
GND
EV+5.8V
GND
CN302 52044-1945
DT_Y
GND
DT_C
GND
P_CONT
EV+12.1V
GND
EV+5.8V
GND
EV+5.8V
GND
V+32V
GND
P_CONT2
DET_ANT
ANT5V_SW
DT_TUON
GND
FAN-
DT_Y 2-D2
DT_C 2-D2
V+12R1E
V+12R1
R301 0(2125)
V+5R8E
D301 UDZS15(B)-TRB
C303 100/16
C301 0.1
C302 0.1
V+32V
R302 0(2125)
R303 0(2123)
C304 470/16
R218 0(2125)
R233 100k
C203
C205 22/25
D201 1SS355-TRB
C202 0.1
C204 100/16
C208 0.1 16
R251 0(2125)
L201 ATH1109-T
Q201 2SD2114K(VW)-TLB
C206 470p
R219 3.3k
R220 2.2k
C201
FANCTL
DTBON
ANT5V_SW
DET_ANT
P_CONT2
P_CONT
V+5R8E
V+5BB
CTF1399- -T
L303
R304 100
Q302 2SC4081(QR)-TLB
Q301 UMD2N-TLB
C305 0.1
C306 0.1
C307 100/16
C308 100/16
RFTHRU
Q301 UMD2N-TLB
V+5VO
V+5VI
Q306 2SC2411K(QR)-TLB
Q305 UMD2N-TLB
R306 33
C313 1u
C314 0.1
C315 100/16
C316 100/16
R307 0(2125)
R308 0(2125)
SWVION5V
Q305 UMD2N-TLB
V+5TU
Q304 2SD2153(VW)-TRB
R318 0
R305 33
Q303 UMD2N-TLB
C309 0.1
C310 0.1
C311 220/16
C312 100/16
C329 0.1
TUON
Q303 UMD2N-TLB
V+12R1E
V+9V
Q308 2SC2411K(QR)-TLB
C317 0.1
R309 1.5k
Q307 UMD2N-TLB
D304 1SS355-TRB
C318 0.1
C319 100/16
C320 100/16
D302 UDZS9R1(B)-TRB
SWVION9V
Q307 UMD2N-TLB
NOTE1
CN103 VKN2015-
DBGP2
DBGP1
DBGP0
RESET
GND
RXD1
TXD1
GND
V+5V
R193 100k
R194 100k
R195 100k
R196 100
C147 0.1
MRST
HST_TO_M
DTBON
ANT5V_SW
DET_ANT
DBGP2
DBGP1
DBGP0
LED_HDD
LED_DVD
LED_P_ON
DAT_TO_M
DAM_TO_T
ASCK
HSM_TO_T
C106
V+12R1E
IC317 CEK1278- -T
L304 LFCA331J-T
D303 1SS355-TRB
C321 0.1
R310 4.7k
Q309 2SC5876(QR)-TLB
C322 100p
C323 1/50
R314 22k
R313 180k
HN1A01FU(YGR)-T
Q311 (1/2)
Q311 (2/2)
R315 100k(F)
R316 22k(F)
C324 0.1
C325
V+5R8E
V+32E
V+32V
L305 CTF1399- -T
C326 10/50
C328 0.1/50
TU_DCCON
R311 820
Q310 2SC4081(QR)-TLB
R312 10k
R271 R272 R273 R274 R275 R276 R277 R278 R279 R280 R281 R282 R283
R260 R261 R262 R263 R264 R265 R266 R267 R268 R269 R270
R320 R321 R322 R323 R324 R325
R290 R291 R292 R293 R294 R295 R296 R297 R298 R299
R198
KN101 VNF1084- -T
KN102 VNF1084- -T
KN103
V+5R8E
C120 0.1
GND
GNDA

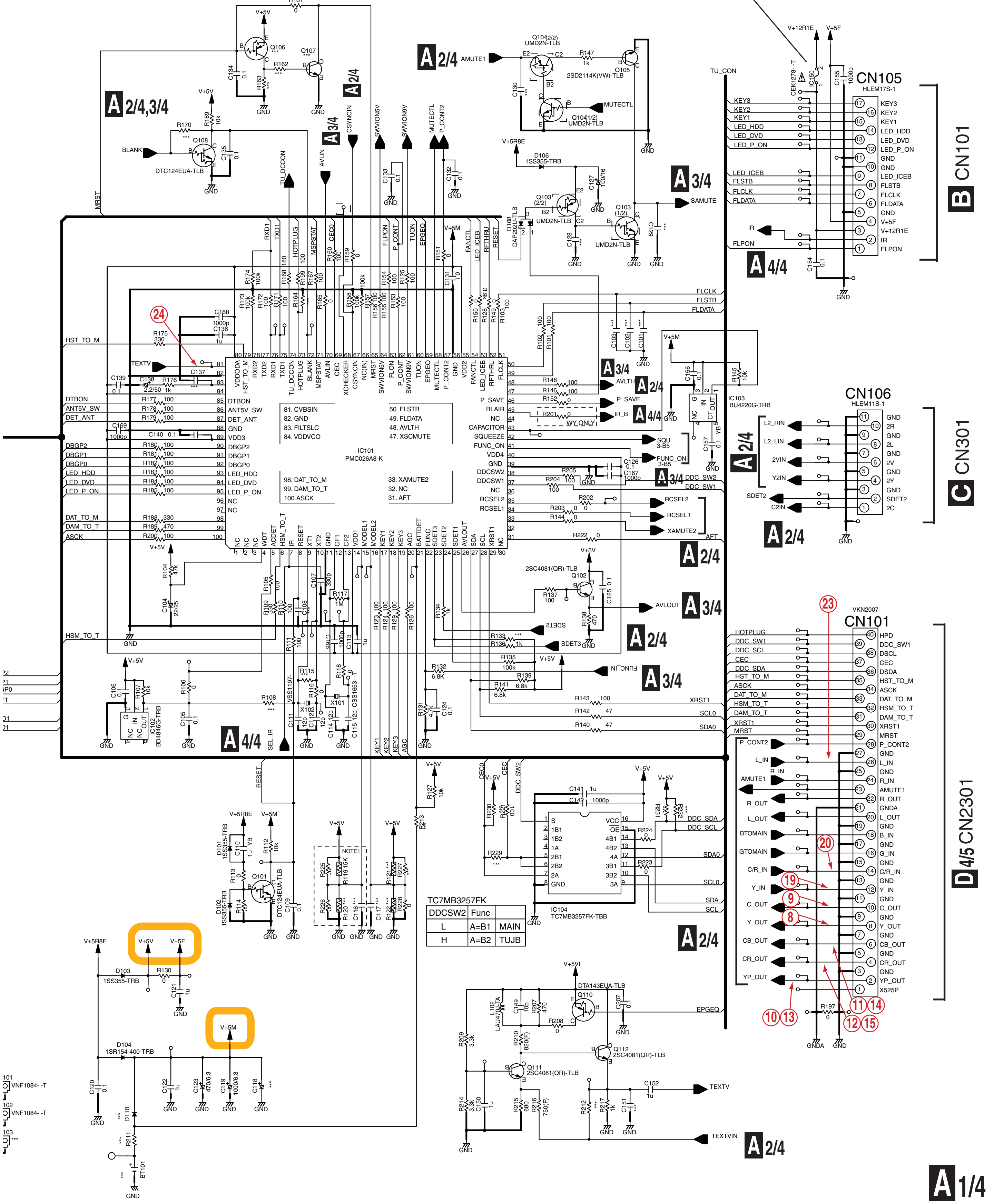
NOTE1

MODEL	LX61D/WY 560HX/WY
MI ASSY	YWM1001-
AI ASSY	YWV1007-
PCB	YNP1005-
R119	15kΩ
R120	***

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. 494.500 (CEK1278) MFD. BY LITTELFUSE FOR IC317.

(1/4)

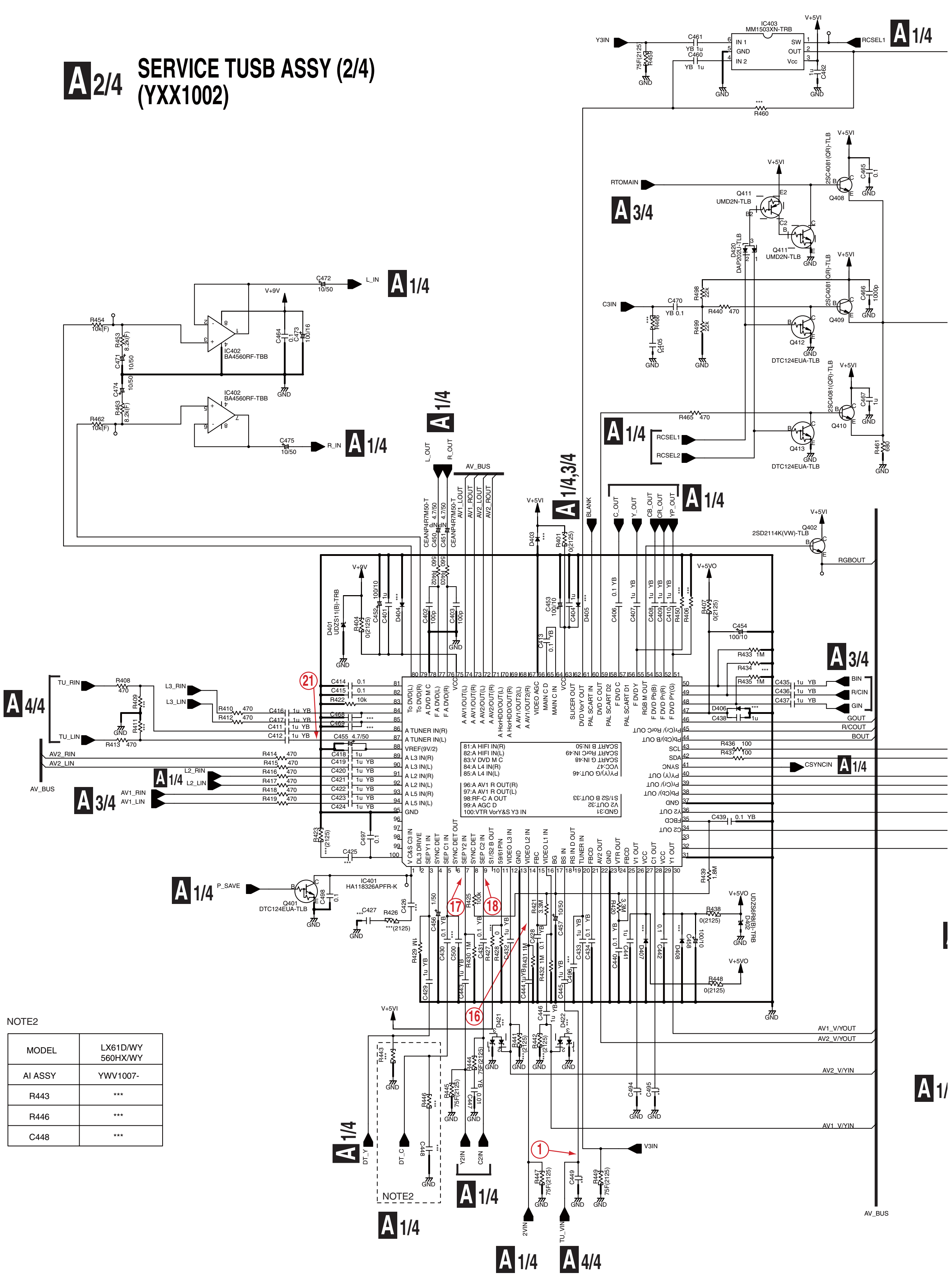
CAUTION- FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE NO. 494.500 (CEK1278) MFD. BY
LITTELFUSE INC. FOR IC150.


A 2/4,3/4
A 2/4
A 3/4
A 4/4
A 1/4
B CN101
C CN301
D 4/5 CN2301
CN105
HLEM17S-1
CN106
HLEM11S-1
VKN2007-
CN101
IC101
PMC026A8-K
IC103
BU4220G-TRB
IC104
TC7MB3257FK-TBB
IC102
BD4846G-TRB
IC150
CEK1278-T
Q104(2/2)
UMD2N-TLB
Q104(1/2)
UMD2N-TLB
Q105
2SD2114K(VW)-TLB
Q103 (2/2)
UMD2N-TLB
Q103 (1/2)
Q106
Q107
Q108
DTC124EUA-TLB
Q101
DTC124EUA-TLB
Q102
2SC4081(QR)-TLB
Q110
DTA143EUA-TLB
Q111
2SC4081(QR)-TLB
Q112
2SC4081(QR)-TLB
D106
1SS355-TRB
D108
DAP202U-TLB
D101
1SS355-TRB
D102
1SS355-TRB
D103
1SS355-TRB
D104
1SR154-400-TRB
D110
BT101
X101
CSS1653-
X102
VSS1197-
L102
LAU470J-A
101 VNF1084- -T
102 VNF1084- -T
103
V+5V
V+5F
V+5M
V+5R8E
V+12R1E
V+5VI
AMUTE1
MUTECTL
SAMUTE
BLANK
TEXTV
TEXTVIN
HST_TO_M
HSM_TO_T
DAT_TO_M
DAM_TO_T
ASCK
DTBON
ANT5V_SW
DET_ANT
DBGP2
DBGP1
DBGP0
LED_HDD
LED_DVD
LED_P_ON
MRST
RESET
FLCLK
FLSTB
FLDATA
KEY1
KEY2
KEY3
LED_ICEB
IR
FLPON
TU_CON
AVLTH
P_SAVE
IR_B
WY ONLY
SQU 3-B5
FUNC_ON 3-B5
DDC_SW2
DDC_SW1
RCSEL2
RCSEL1
XAMUTE2
AFT
AVLOUT
SDET2
SDET3
FUNC_IN
XRST1
SCL0
SDA0
EPGEQ
HOTPLUG
DDC_SCL
DDC_SDA
CEC
L2_RIN
L2_LIN
2VIN
Y2IN
C2IN
P_CONT2
L_IN
R_IN
R_OUT
L_OUT
BTOMAIN
GTOMAIN
C/R_IN
Y_IN
C_OUT
Y_OUT
CB_OUT
CR_OUT
YP_OUT
GNDA
GND
NOTE1
㉔
㉓
⑳
⑲
⑨
⑧
⑩⑬
⑪⑭
⑫⑮

TC7MB3257FK		
DDCSW2	Func	
L	A=B1	MAIN
H	A=B2	TUJB

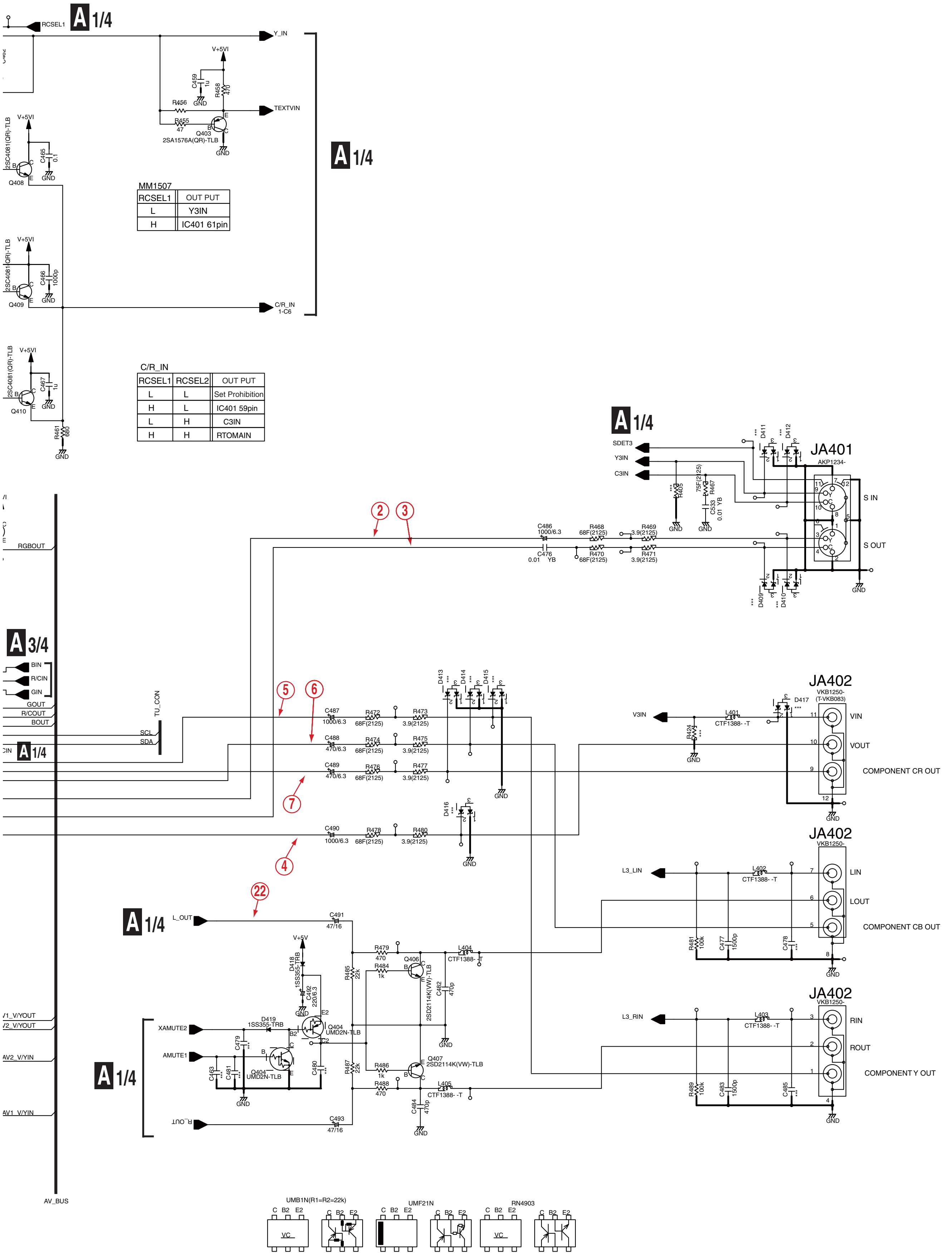
10.2 SERVICE TUSB ASSY (2/4)

A 2/4 SERVICE TUSB ASSY (2/4)
(YXX1002)


IC403 MM1503XN-TRB
IN 1
GND
IN 2
SW
OUT
Vcc
Y3IN
RCSEL1
A 1/4
C461 YB 1u
C460 YB 1u
R459 75F(2125)
C462 1u
R460
V+5VI
RTOMAIN
A 3/4
Q411 UMD2N-TLB
D420 DAP202U-TLB
Q408 2SC4081(QR)-TLB
C465 0.1
C3IN
C470 YB 0.1
R498 22k
R499 22k
R440 470
Q409 2SC4081(QR)-TLB
C466 1000p
Q412 DTC124EUA-TLB
Q410 2SC4081(QR)-TLB
C467 1u
R465 470
RCSEL1
RCSEL2
Q413 DTC124EUA-TLB
R461 680
C472 10/50
L_IN
V+9V
IC402 BA4560RF-TBB
R454 10k(F)
R453 8.2k(F)
C471 10/50
C474 10/50
R463 8.2k(F)
R462 10k(F)
C464 0.1
C473 100/16
C475 10/50
R_IN
L_OUT
R_OUT
AV_BUS
AV1_LOUT
AV1_ROUT
AV2_LOUT
AV2_ROUT
A 1/4,3/4
BLANK
C_OUT
Y_OUT
CB_OUT
CR_OUT
YP_OUT
Q402 2SD2114K(VW)-TLB
RGBOUT
V+5VO
D401 UDZS11(B)-TRB
D403
D404
D405
IC401 HA118326APFR-K
81:A HIFI IN(R)
82:A HIFI IN(L)
83:V DVD M C
84:A L4 IN(R)
85:A L4 IN(L)
96:A AV1 R OUT(R)
97:A AV1 R OUT(L)
98:RF-C A OUT
99:A AGC D
100:VTR VorY&S Y3 IN
SCART B IN:50
SCART Rorc IN:49
SCART G IN:48
VCC:47
PY(Y)/G OUT:46
S1/S2 B OUT:33
V2 OUT:32
GND:31
A 4/4
TU_RIN
TU_LIN
L3_RIN
L3_LIN
R408 470
R410 470
R412 470
R413 470
AV2_RIN
AV2_LIN
L2_RIN
L2_LIN
AV1_RIN
AV1_LIN
BIN
R/CIN
GIN
GOUT
R/COUT
BOUT
CSYNCIN
SCL
SDA
P_SAVE
Q401 DTC124EUA-TLB
AV1_V/YOUT
AV2_V/YOUT
AV2_V/YIN
AV1_V/YIN
V3IN
DT_Y
DT_C
Y2IN
C2IN
2VIN
TU_VIN
D421
D422
D406
D407
D408
D402 UDZS6R8(B)-TRB
NOTE2
21
17
18
16
1

NOTE2

MODEL	LX61D/WY 560HX/WY
AI ASSY	YWV1007-
R443	***
R446	***
C448	***


A 1/4
RCSEL1
Y_IN
V+5VI
C459 1u
R458 470
R456
R455 47
TEXTVIN
Q403 2SA1576A(QR)-TLB
GND
2SC4081(QR)-TLB
C465 0.1
Q408
C466 1000p
Q409
C/R_IN 1-C6
2SC4081(QR)-TLB
C467 1u
Q410
R461 680
A 1/4
SDET3
Y3IN
C3IN
D411
D412
JA401
AKP1234-
R465
75F(2125)
R467
C533 0.01 YB
S IN
S OUT
C486 1000/6.3
R468 68F(2125)
R469 3.9(2125)
C476 0.01 YB
R470 68F(2125)
R471 3.9(2125)
D409
D410
RGBOUT
A 3/4
BIN
R/CIN
GIN
GOUT
R/COUT
BOUT
TU_CON
SCL
SDA
A 1/4
②
③
⑤
⑥
⑦
④
㉒
D413
D414
D415
C487 1000/6.3
R472 68F(2125)
R473 3.9(2125)
C488 470/6.3
R474 68F(2125)
R475 3.9(2125)
C489 470/6.3
R476 68F(2125)
R477 3.9(2125)
C490 1000/6.3
R478 68F(2125)
R480 3.9(2125)
D416
JA402
VKB1250- (T-VKB083)
D417
V3IN
L401 CTF1388- -T
R424
VIN
VOUT
COMPONENT CR OUT
JA402
VKB1250-
L3_LIN
L402 CTF1388- -T
LIN
LOUT
COMPONENT CB OUT
R481 100k
C477 1500p
C478
A 1/4
L_OUT
C491 47/16
V+5V
D418 1SS355-TRB
C492 220/6.3
R479 470
R484 1k
Q406
2SD2114K(VW)-TLB
L404 CTF1388- -T
C482 470p
R485 22k
JA402
VKB1250-
L3_RIN
L403 CTF1388- -T
RIN
ROUT
COMPONENT Y OUT
V1_V/YOUT
V2_V/YOUT
AV2_V/YIN
AV1_V/YIN
A 1/4
XAMUTE2
D419 1SS355-TRB
Q404 UMD2N-TLB
AMUTE1
C479
Q404 UMD2N-TLB
C463
C481
C480
R487 22k
R486 1k
R488 470
Q407 2SD2114K(VW)-TLB
L405 CTF1388- -T
C484 470p
R489 100k
C483 1500p
C485
R_OUT
C493 47/16
AV_BUS
UMB1N(R1=R2=22k)
UMF21N
RN4903
C B2 E2
E B C2
VC

MM1507

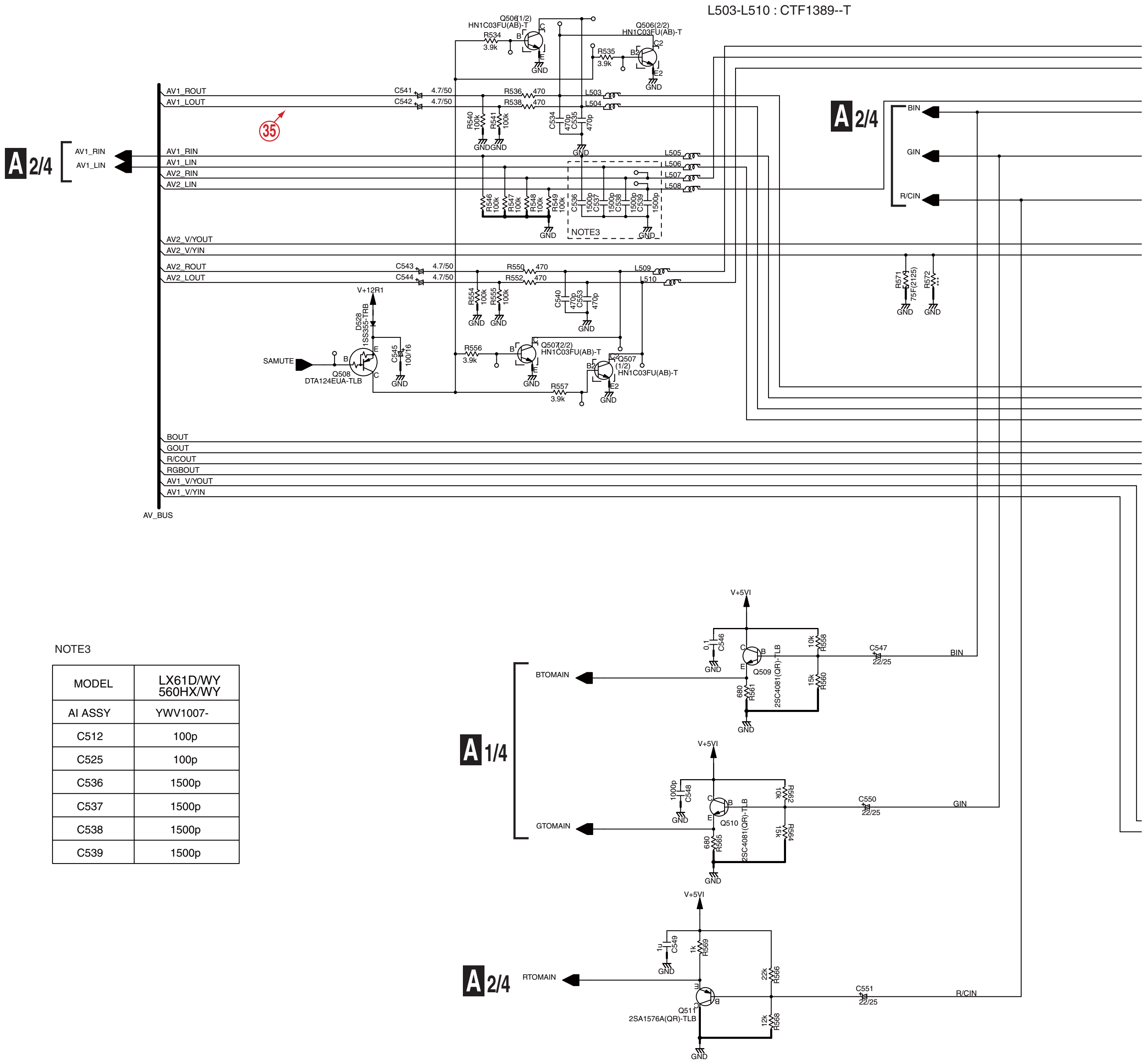
RCSEL1	OUT PUT
L	Y3IN
H	IC401 61pin

C/R_IN

RCSEL1	RCSEL2	OUT PUT
L	L	Set Prohibition
H	L	IC401 59pin
L	H	C3IN
H	H	RTOMAIN

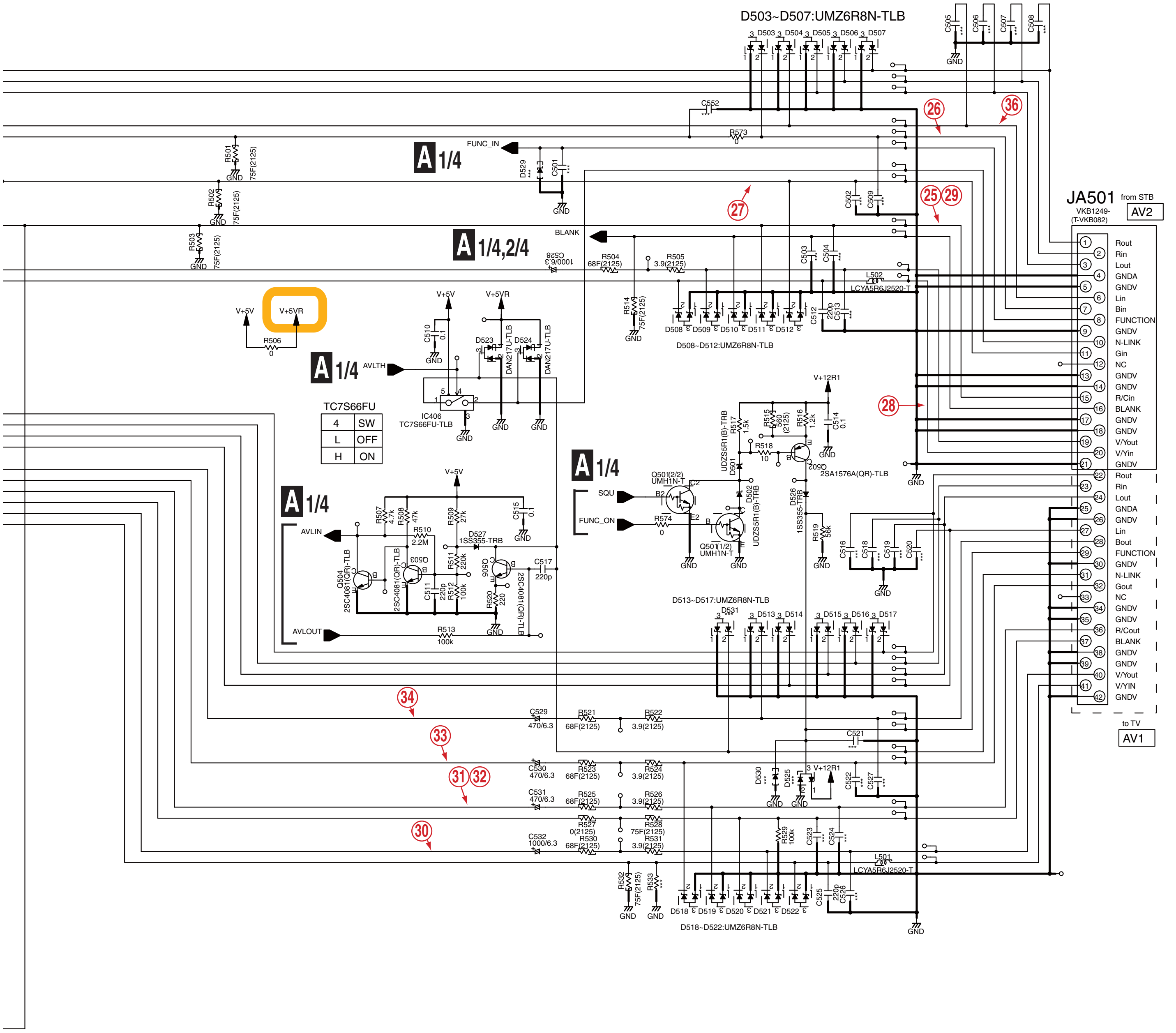
10.3 SERVICE TUSB ASSY (3/4)

A 3/4 SERVICE TUSB ASSY (3/4)
(YXX1002)


L503-L510 : CTF1389--T
Q506(1/2)
HN1C03FU(AB)-T
Q506(2/2)
HN1C03FU(AB)-T
R534
3.9k
R535
3.9k
GND
AV1_ROUT
AV1_LOUT
C541
C542
4.7/50
4.7/50
R536
R538
470
470
L503
L504
R540
100k
R541
100k
C534
470p
C535
470p
35
A 2/4
AV1_RIN
AV1_LIN
AV1_RIN
AV1_LIN
AV2_RIN
AV2_LIN
L505
L506
L507
L508
R546
R547
R548
R549
100k
C536
C537
C538
C539
1500p
NOTE3
A 2/4
BIN
GIN
R/CIN
AV2_V/YOUT
AV2_V/YIN
AV2_ROUT
AV2_LOUT
C543
C544
4.7/50
4.7/50
R550
R552
470
470
L509
L510
R571
75F(2125)
R572
R554
100k
R555
100k
C540
470p
C553
470p
V+12R1
D528
1SS355-TRB
C545
100/16
SAMUTE
Q508
DTA124EUA-TLB
R556
3.9k
Q507(2/2)
HN1C03FU(AB)-T
Q507
(1/2)
HN1C03FU(AB)-T
R557
3.9k
BOUT
GOUT
R/COUT
RGBOUT
AV1_V/YOUT
AV1_V/YIN
AV_BUS
V+5VI
C546
0.1
R558
10k
C547
22/25
BIN
BTOMAIN
Q509
2SC4081(QR)-TLB
R561
680
R560
15k
A 1/4
V+5VI
C548
1000p
R562
10k
C550
22/25
GIN
GTOMAIN
Q510
2SC4081(QR)-TLB
R565
680
R564
15k
V+5VI
C549
1u
R569
1k
A 2/4
RTOMAIN
R566
22k
C551
22/25
R/CIN
Q511
2SA1576A(QR)-TLB
R568
12k
B
C
E
GND

NOTE3

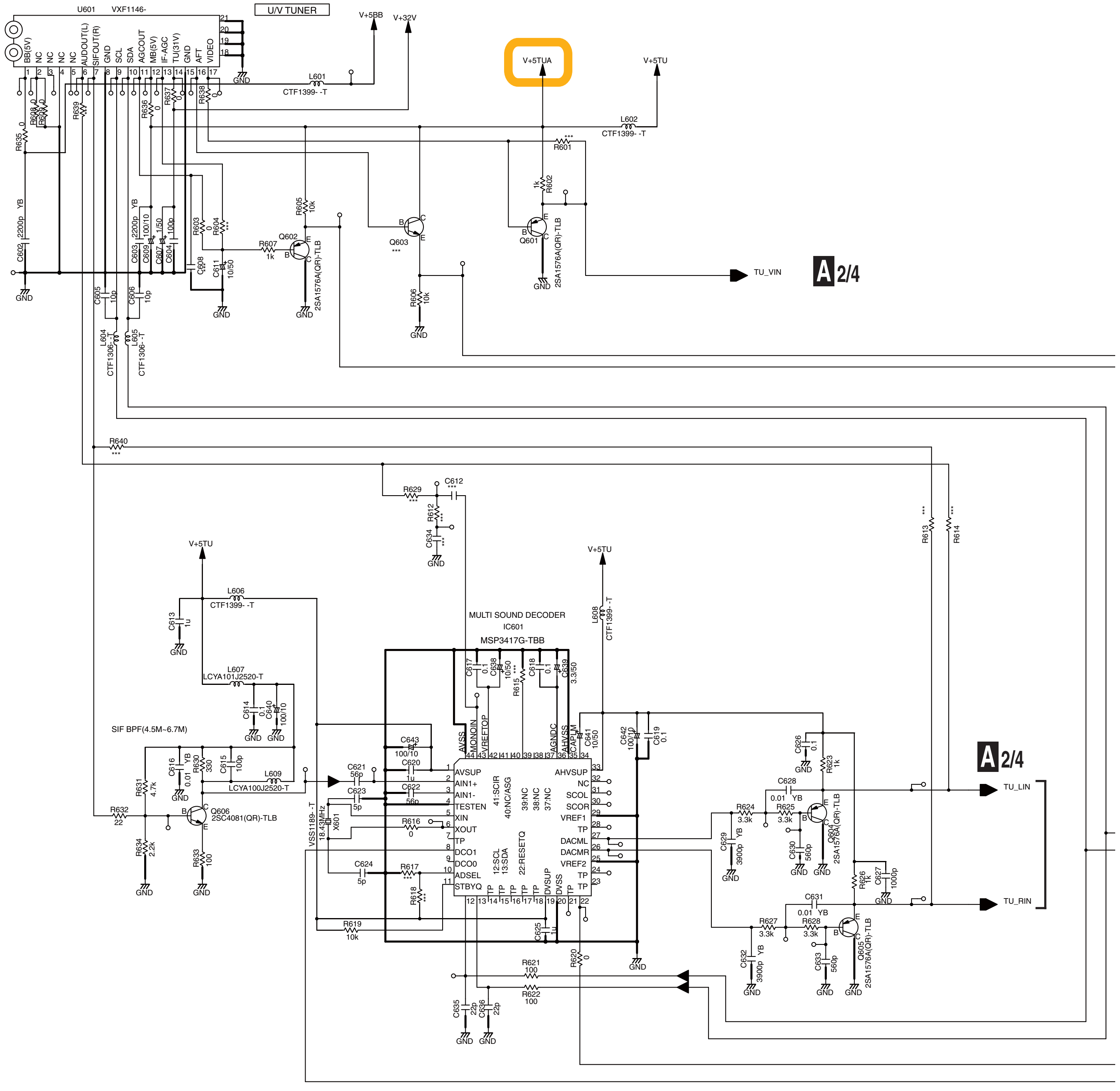
MODEL	LX61D/WY 560HX/WY
AI ASSY	YWV1007-
C512	100p
C525	100p
C536	1500p
C537	1500p
C538	1500p
C539	1500p


D503~D507:UMZ6R8N-TLB
D503
D504
D505
D506
D507
C505
C506
C507
C508
GND
C552
R573
0
26
36
A 1/4
FUNC_IN
D529
C501
GND
R501
GND
75F(2125)
R502
GND
75F(2125)
R503
GND
75F(2125)
27
C502
C509
25
29
JA501
from STB
AV2
VKB1249-
(T-VKB082)
A 1/4,2/4
BLANK
C528
1000/6.3
R504
68F(2125)
R505
3.9(2125)
C503
C504
L502
LCYA5R6J2520-T
R514
75F(2125)
GND
D508
D509
D510
D511
D512
C512
C513
220p
D508~D512:UMZ6R8N-TLB
V+5V
V+5VR
R506
0
V+5V
V+5VR
C510
0.1
GND
D523
D524
DAN217U-TLB
DAN217U-TLB
A 1/4
AVLTH
IC406
TC7S66FU-TLB
GND
GND
GND
TC7S66FU
4 SW
L OFF
H ON
V+12R1
UDZS5R1(B)-TRB
R517
1.5k
R515
560
(2125)
R516
1.2k
C514
0.1
R518
10
Q502
2SA1576A(QR)-TLB
GND
28
D501
A 1/4
Q501(2/2)
UMH1N-T
SQU
FUNC_ON
R574
0
Q501(1/2)
UMH1N-T
D502
UDZS5R1(B)-TRB
D526
1SS355-TRB
R519
56k
GND
GND
GND
C516
C518
C519
C520
GND
A 1/4
V+5V
R507
4.7k
R508
47k
R509
27k
C515
0.1
GND
AVLIN
R510
2.2M
D527
1SS355-TRB
Q504
2SC4081(QR)-TLB
Q503
2SC4081(QR)-TLB
C511
220p
R511
220k
R512
100k
Q505
R520
220
2SC4081(QR)-TLB
C517
220p
AVLOUT
R513
100k
GND
D513~D517:UMZ6R8N-TLB
D531
D513
D514
D515
D516
D517
1 Rout
2 Rin
3 Lout
4 GNDA
5 GNDV
6 Lin
7 Bin
8 FUNCTION
9 GNDV
10 N-LINK
11 Gin
12 NC
13 GNDV
14 GNDV
15 R/Cin
16 BLANK
17 GNDV
18 GNDV
19 V/Yout
20 V/Yin
21 GNDV
22 Rout
23 Rin
24 Lout
25 GNDA
26 GNDV
27 Lin
28 Bout
29 FUNCTION
30 GNDV
31 N-LINK
32 Gout
33 NC
34 GNDV
35 GNDV
36 R/Cout
37 BLANK
38 GNDV
39 GNDV
40 V/Yout
41 V/YIN
42 GNDV
to TV
AV1
34
C529
470/6.3
R521
68F(2125)
R522
3.9(2125)
33
C521
31
32
C530
470/6.3
R523
68F(2125)
R524
3.9(2125)
D530
D525
V+12R1
GND
GND
C522
C527
C531
470/6.3
R525
68F(2125)
R526
3.9(2125)
30
R527
0(2125)
R528
75F(2125)
C532
1000/6.3
R530
68F(2125)
R531
3.9(2125)
R529
100k
C523
C524
L501
LCYA5R6J2520-T
R532
75F(2125)
R533
GND
GND
D518
D519
D520
D521
D522
C525
C526
220p
D518~D522:UMZ6R8N-TLB
GND
A
B
C
D
E
F

10.4 SERVICE TUSB ASSY (4/4)

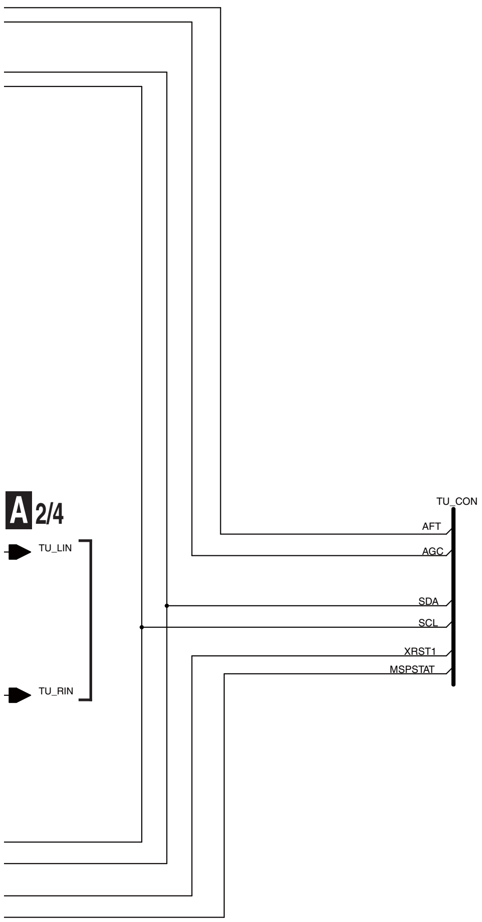
A

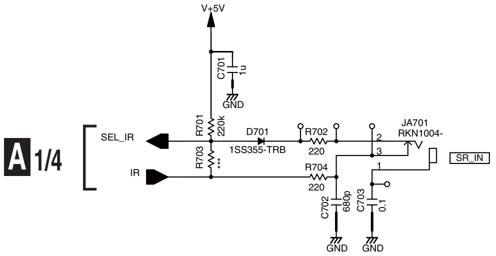
A 4/4 SERVICE TUSB ASSY (4/4)
(YXX1002)

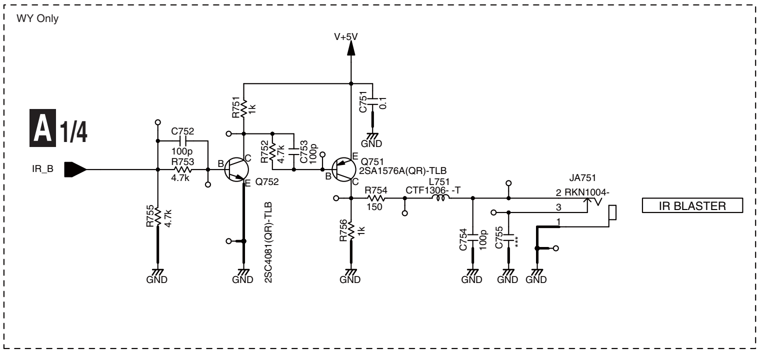

U601 VXF1146-
U/V TUNER
BB(5V)
NC
NC
NC
NC
AUDOUT(L)
SIFOUT(R)
GND
SCL
SDA
AGCOUT
MB(5V)
IF-AGC
TU(31V)
GND
AFT
VIDEO
V+5BB
V+32V
V+5TUA
V+5TU
L601 CTF1399- -T
L602 CTF1399- -T
R601
R602 1k
Q601 2SA1576A(QR)-TLB
Q602 2SA1576A(QR)-TLB
Q603
R603
R604
R605 10k
R606 10k
R607 1k
R635 0
R636 0
R637
R638
R639
R608 0
R609 0
C602 2200p YB
C603 2200p YB
C609 100/10
C607 1/50
C604 100p
C608
C611 10/50
C605 10p
C606 10p
L604 CTF1306- -T
L605 CTF1306- -T
TU_VIN
A 2/4
R640
R629
C612
R612
C634
GND
V+5TU
L606 CTF1399- -T
C613 1u
L607 LCYA101J2520-T
C614 0.1
C640 100/10
L608 CTF1399- -T
MULTI SOUND DECODER
IC601
MSP3417G-TBB
C617 0.1
C638 10/50
R615
C618 0.1
C639 3.3/50
SIF BPF(4.5M~6.7M)
C616 0.01 YB
R630 330
C615 100p
L609 LCYA100J2520-T
R631 4.7k
R632 22
Q606 2SC4081(QR)-TLB
R634 2.2k
R633 100
C643 100/10
C620 1u
C621 56p
C622 56p
C623 5p
VSS1189- -T 18.432MHz
X601
R616 0
C624 5p
R617
R618
R619 10k
AVSS
MONOIN
VREFTOP
AGNDC
AHVSS
CAPLM
C641 10/50
C642 100/10
C619 0.1
AVSUP
AIN1+
AIN1-
TESTEN
XIN
XOUT
TP
DCO1
DCO0
ADSEL
STBYQ
41:SCIR
40:NC/ASG
39:NC
38:NC
37:NC
12:SCL
13:SDA
22:RESETQ
DVSUP
DVSS
AHVSUP
NC
SCOL
SCOR
VREF1
TP
DACML
DACMR
VREF2
TP
TP
C625 1u
R620 0
R621 100
R622 100
C635 22p
C636 22p
R613
R614
C626 0.1
R623 1k
C628 0.01 YB
R624 3.3k
R625 3.3k
Q604 2SA1576A(QR)-TLB
C629 3900p YB
C630 560p
R626 1k
C627 1000p
C631 0.01 YB
R627 3.3k
R628 3.3k
Q605 2SA1576A(QR)-TLB
C632 3900p YB
C633 560p
TU_LIN
TU_RIN
A 2/4
B
C
D
E

F

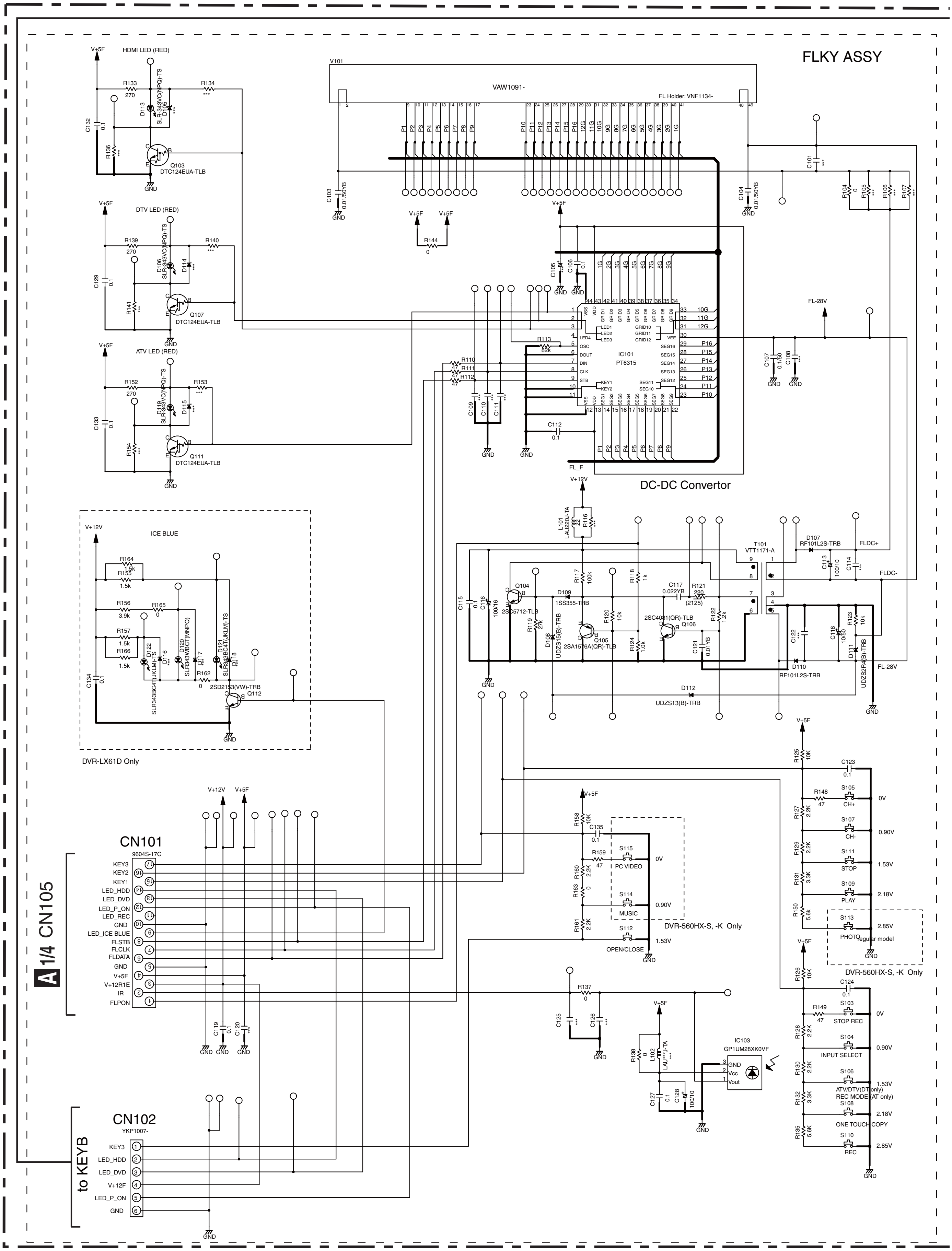
A 4/4


A 2/4
TU_LIN
TU_RIN
TU_CON
AFT
AGC
SDA
SCL
XRST1
MSPSTAT

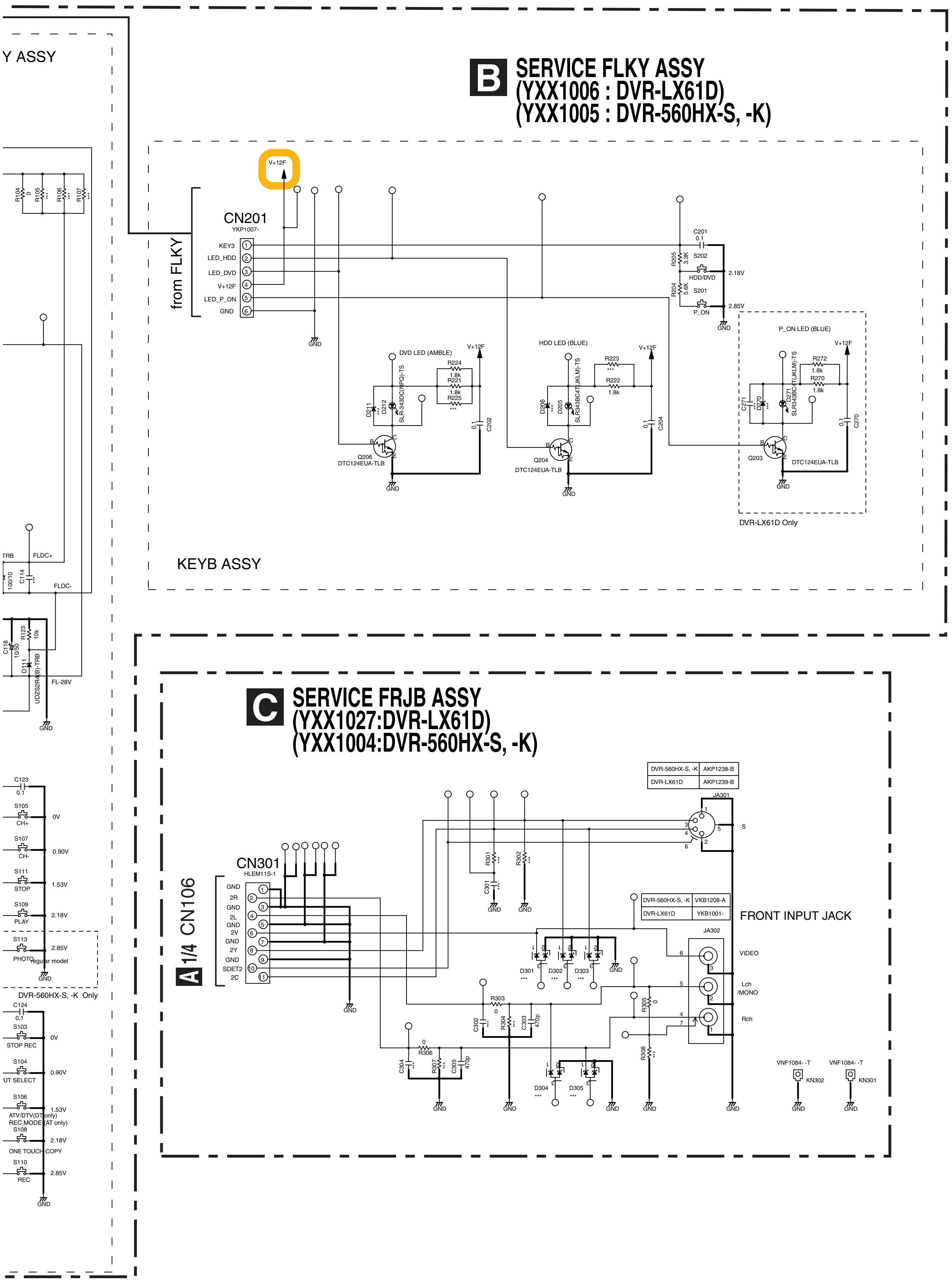

V+5V
C701
1u
GND
A 1/4
SEL_IR
IR
R701
220k
R703
***
D701
1SS355-TRB
R702
220
R704
220
JA701
RKN1004-
2
3
1
SR_IN
C702
680p
C703
0.1
GND
GND


WY Only
V+5V
A 1/4
IR_B
C752
100p
R753
4.7k
R755
4.7k
GND
R751
1k
B
C
E
Q752
2SC4081(QR)-TLB
GND
R752
4.7k
C753
100p
C751
0.1
GND
E
B
C
Q751
2SA1576A(QR)-TLB
R754
150
R756
1k
GND
L751
CTF1306- -T
C754
100p
C755
***
GND
GND
GND
JA751
2 RKN1004-
3
1
IR BLASTER

10.5 SERVICE FLKY and SERVICE FRJB ASSYS

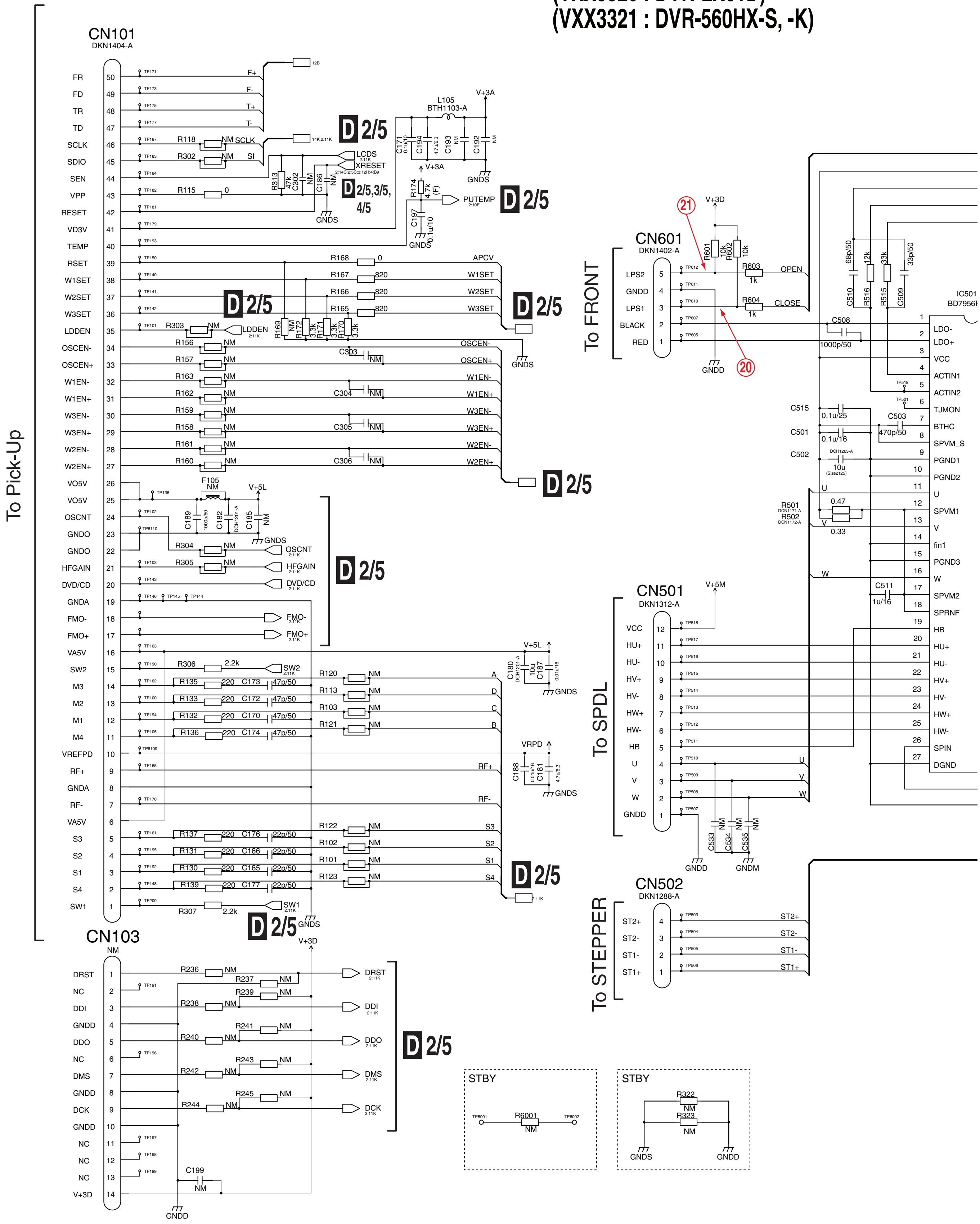

FLKY ASSY
V101
VAW1091-
FL Holder: VNF1134-
HDMI LED (RED)
R133 270
R134
D113
SLR-343VC(NPQ)-TS
D105
C132 0.1
R136
Q103
DTC124EUA-TLB
DTV LED (RED)
R139 270
R140
D106
SLR-343VC(NPQ)-TS
D114
C129 0.1
R141
Q107
DTC124EUA-TLB
ATV LED (RED)
R152 270
R153
D118
SLR-343VC(NPQ)-TS
D115
C133 0.1
R154
Q111
DTC124EUA-TLB
C103 0.01/50VB
C104 0.01/50VB
R144 0
C105
C106 0.1
IC101
PT6315
R113 82K
R110 47
R111 47
R112 47
C109
C110
C111
C112 0.1
C101
R104 0
R105
R106
R107
FL-28V
C107 0.1/50
C108
FL_F
DC-DC Convertor
V+12V
L101
LAU220J-TA
R116
T101
VTT1171-A
D107
RF101L2S-TRB
FLDC+
FLDC-
C113 100/10
C114
C115 0.1
C116 100/16
Q104
2SC5712-TLB
R117 100k
R118 1k
D109
1SS355-TRB
C117 0.022YB
R121 220 (2125)
R119 27K
D108
UDZS15(B)-TRB
R120 10k
Q105
2SA1576A(QR)-TLB
2SC4081(QR)-TLB
Q106
R124 10k
C121 0.01YB
R122 1.2k
C122
C118 10/50
R123 10k
D110
RF101L2S-TRB
D111
UDZS24(B)-TRB
FL-28V
D112
UDZS13(B)-TRB
ICE BLUE
R164 1.5k
R155 1.5k
R156 3.9k
R165 0
R157 1.5k
R166 1.5k
D122
D116
D120
SLR343WBCT(MNPQ)
D117
D121
SLR343BC4T(JKLM)-TS
D118
R162 0
2SD2153(VW)-TRB
Q112
C134 0.1
SLR343BC4T(JKLM)-TS
DVR-LX61D Only
CN101
9604S-17C
KEY3 17
KEY2 16
KEY1 15
LED_HDD 14
LED_DVD 13
LED_P_ON 12
LED_REC 11
GND 10
LED_ICE BLUE 9
FLSTB 8
FLCLK 7
FLDATA 6
GND 5
V+5F 4
V+12R1E 3
IR 2
FLPON 1
A 1/4 CN105
C119 0.1
C120
V+5F
R158 10K
C135 0.1
R159 47
S115 PC VIDEO 0V
R160 2.2K
R163 0
S114 MUSIC 0.90V
R161 2.2K
S112 OPEN/CLOSE 1.53V
DVR-560HX-S, -K Only
R125 10K
C123 0.1
R148 47
S105 CH+ 0V
R127 2.2K
S107 CH- 0.90V
R129 2.2K
S111 STOP 1.53V
R131 3.3K
S109 PLAY 2.18V
R150 5.6K
S113 PHOTO 2.85V
regular model
DVR-560HX-S, -K Only
R137 0
C125
C126
IC103
GP1UM28XK0VF
GND
Vcc
Vout
R138 0
L102
LAU***J-TA
C127 0.1
C128 100/10
R126 10K
C124 0.1
R149 47
S103 STOP REC 0V
R128 2.2K
S104 INPUT SELECT 0.90V
R130 2.2K
S106 ATV/DTV(DT only) REC MODE(AT only) 1.53V
R132 3.3K
S108 ONE TOUCH COPY 2.18V
R135 5.6K
S110 REC 2.85V
CN102
YKP1007-
KEY3 1
LED_HDD 2
LED_DVD 3
V+12F 4
LED_P_ON 5
GND 6
to KEYB
GND

B C

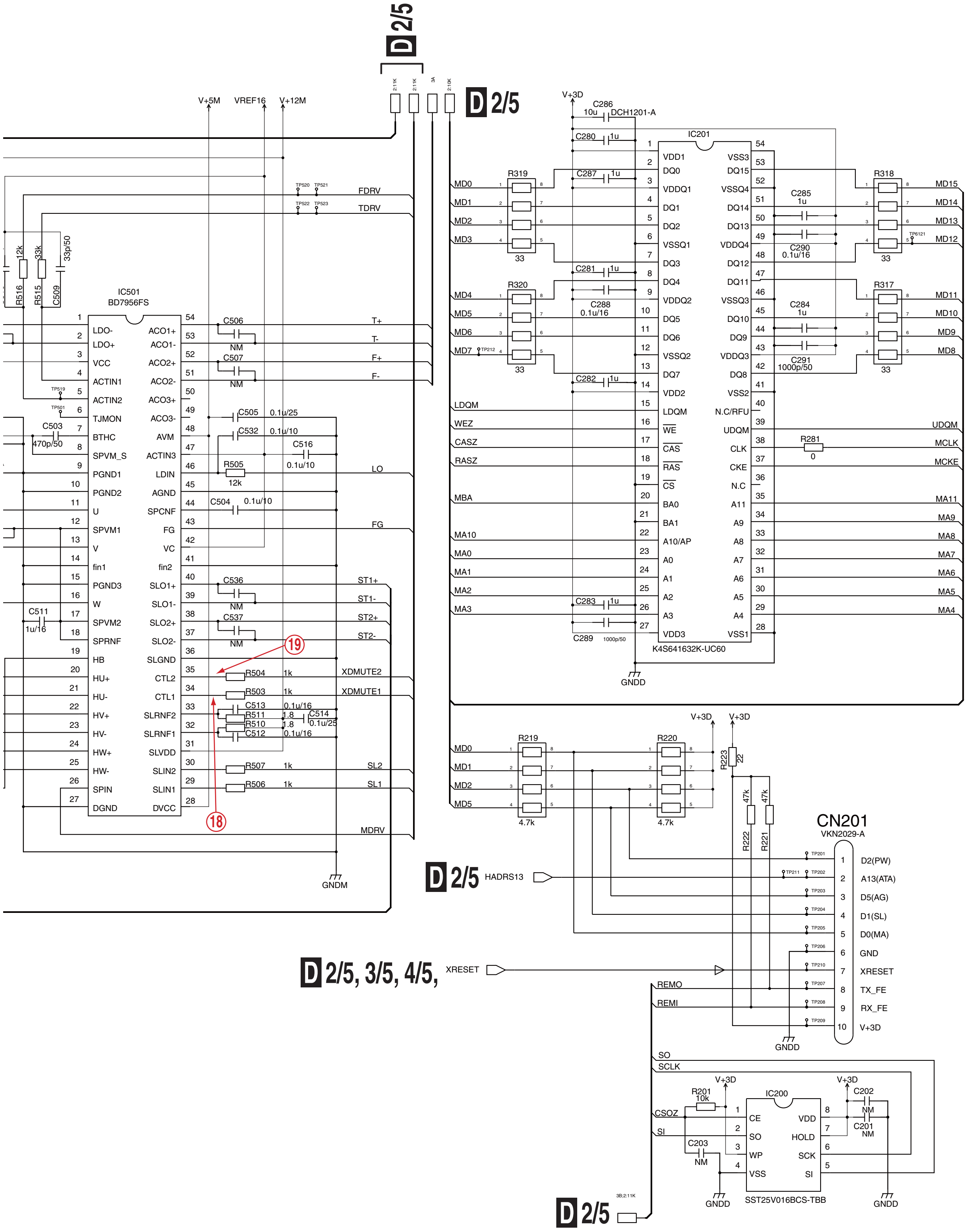

Y ASSY
B SERVICE FLKY ASSY
(YXX1006 : DVR-LX61D)
(YXX1005 : DVR-560HX-S, -K)
V+12F
CN201
YKP1007-
from FLKY
KEY3 1
LED_HDD 2
LED_DVD 3
V+12F 4
LED_P_ON 5
GND 6
GND
C201
0.1
R205
3.3K
S202
HDD/DVD
2.18V
R204
5.6K
S201
P_ON
2.85V
DVD LED (AMBLE)
R224
1.8k
R221
1.8k
R225
D211
D212
SLR-343DC(NPQ)-TS
C202
0.1
Q206
DTC124EUA-TLB
HDD LED (BLUE)
R223
R222
1.8k
D206
D205
SLR343BC4T(JKLM)-TS
C204
0.1
Q204
DTC124EUA-TLB
P_ON LED (BLUE)
R272
1.8k
R270
1.8k
C271
D270
D271
SLR343BC4T(JKLM)-TS
C270
0.1
Q203
DTC124EUA-TLB
DVR-LX61D Only
KEYB ASSY
R104
0
R105
R106
R107
TRB
FLDC+
FLDC-
100/10
C114
C118
10/50
R123
10k
D111
UDZS24(B)-TRB
FL-28V
C123
0.1
S105
CH+
0V
S107
CH-
0.90V
S111
STOP
1.53V
S109
PLAY
2.18V
S113
PHOTO
2.85V
regular model
DVR-560HX-S, -K Only
C124
0.1
S103
STOP REC
0V
S104
UT SELECT
0.90V
S106
1.53V
ATV/DTV(DT only)
REC MODE(AT only)
S108
2.18V
ONE TOUCH COPY
S110
2.85V
REC
C SERVICE FRJB ASSY
(YXX1027:DVR-LX61D)
(YXX1004:DVR-560HX-S, -K)
DVR-560HX-S, -K AKP1238-B
DVR-LX61D AKP1239-B
JA301
S
A 1/4 CN106
CN301
HLEM11S-1
GND 1
2R 2
GND 3
2L 4
GND 5
2V 6
GND 7
2Y 8
GND 9
SDET2 10
2C 11
R301
R302
C301
DVR-560HX-S, -K VKB1208-A
DVR-LX61D YKB1001-
FRONT INPUT JACK
JA302
VIDEO
Lch /MONO
Rch
D301
D302
D303
R303
0
C302
R304
C303
470p
R305
0
R306
0
C304
R307
C305
470p
D304
D305
R308
VNF1084- -T
KN302
VNF1084- -T
KN301
GND
A
B
C
D
E
F

10.6 SERVICE MAIN ASSY (1/5)

D 1/5 SERVICE MAIN ASSY (1/5)
(VXX3320 : DVR-LX61D)
(VXX3321 : DVR-560HX-S, -K)

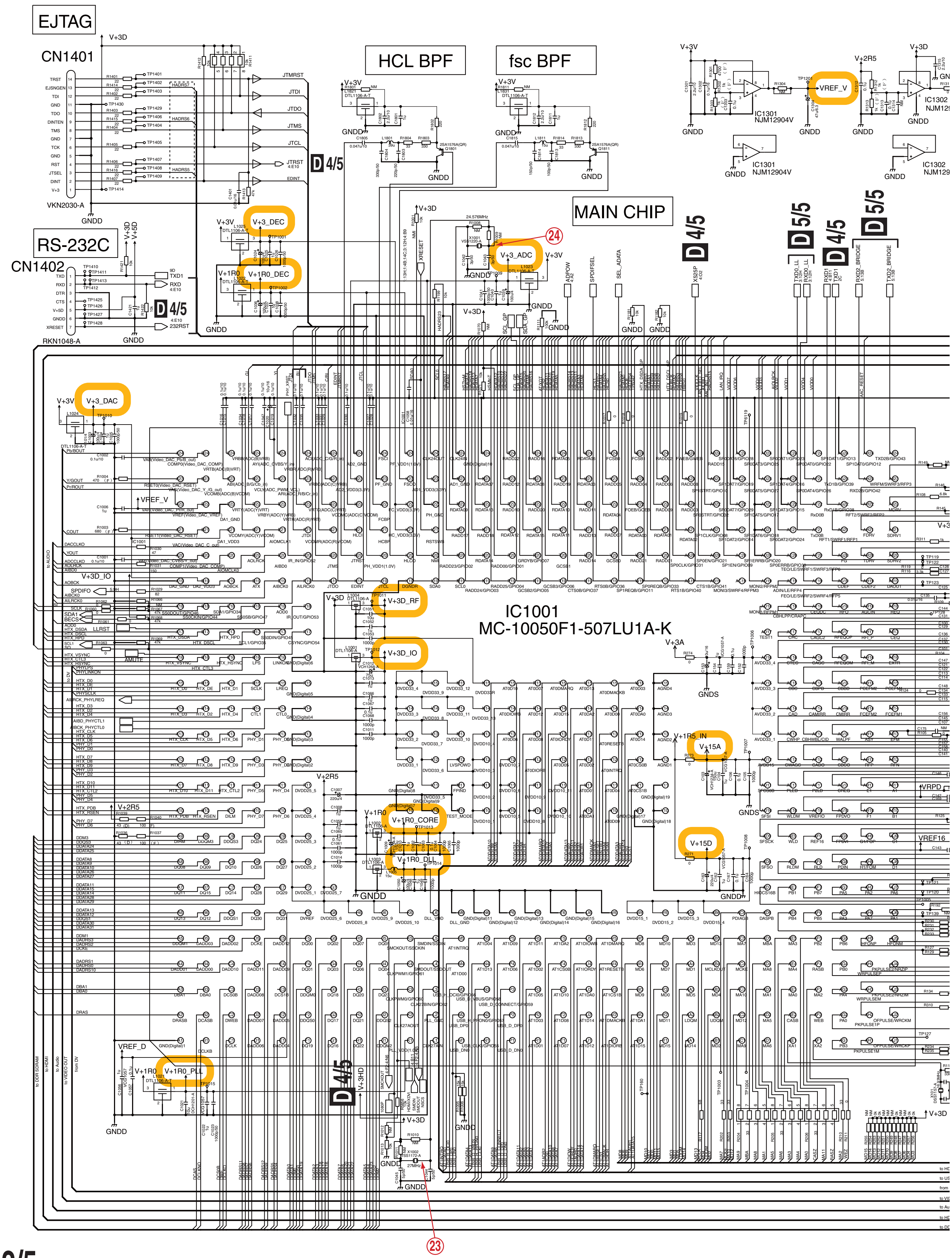


To Pick-Up
CN101
DKN1404-A
FR 50
FD 49
TR 48
TD 47
SCLK 46
SDIO 45
SEN 44
VPP 43
RESET 42
VD3V 41
TEMP 40
RSET 39
W1SET 38
W2SET 37
W3SET 36
LDDEN 35
OSCEN- 34
OSCEN+ 33
W1EN- 32
W1EN+ 31
W3EN- 30
W3EN+ 29
W2EN- 28
W2EN+ 27
VO5V 26
VO5V 25
OSCNT 24
GNDO 23
GNDO 22
HFGAIN 21
DVD/CD 20
GNDA 19
FMO- 18
FMO+ 17
VA5V 16
SW2 15
M3 14
M2 13
M1 12
M4 11
VREFPD 10
RF+ 9
GNDA 8
RF- 7
VA5V 6
S3 5
S2 4
S1 3
S4 2
SW1 1
F+
F-
T+
T-
R118 NM SCLK
R302 NM SI
R115 0
LCDS
XRESET
R313 47k
C302
C186 NM
D 2/5,3/5, 4/5
L105
BTH1103-A
V+3A
C171 0.1u/10
C194
C193
C192 NM
GNDS
R174 4.7k (F)
PUTEMP
C197 0.1u/10
D 2/5
R168 0 APCV
R167 820 W1SET
R166 820 W2SET
R165 820 W3SET
R169 NM
R172 3.3k
R171 3.3k
R170 3.3k
R303 NM LDDEN
R156 NM OSCEN-
R157 NM OSCEN+
C303 NM
R163 NM W1EN-
R162 NM W1EN+
C304 NM
R159 NM W3EN-
R158 NM W3EN+
C305 NM
R161 NM W2EN-
R160 NM W2EN+
C306 NM
F105 NM
V+5L
C189 1000p/50
C182
C185 NM
R304 NM OSCNT
R305 NM HFGAIN
DVD/CD
FMO-
FMO+
R306 2.2k SW2
R135 220 C173 47p/50
R133 220 C172 47p/50
R132 220 C170 47p/50
R136 220 C174 47p/50
R120 NM A
R113 NM D
R103 NM C
R121 NM B
C180 10u C187 0.01u/16
VRPD
RF+
RF-
C188 0.01u/16 C181 4.7u/6.3
R137 220 C176 22p/50
R131 220 C166 22p/50
R130 220 C165 22p/50
R139 220 C177 22p/50
R122 NM S3
R102 NM S2
R101 NM S1
R123 NM S4
R307 2.2k SW1
CN103
NM
DRST 1
NC 2
DDI 3
GNDD 4
DDO 5
NC 6
DMS 7
GNDD 8
DCK 9
GNDD 10
NC 11
NC 12
NC 13
V+3D 14
R236 NM
R237 NM
R238 NM
R239 NM
R240 NM
R241 NM
R242 NM
R243 NM
R244 NM
R245 NM
DRST
DDI
DDO
DMS
DCK
C199 NM
GNDD
V+3D
To FRONT
CN601
DKN1402-A
LPS2 5
GNDD 4
LPS1 3
BLACK 2
RED 1
R601 10k
R602 10k
R603 1k OPEN
R604 1k CLOSE
㉑
⑳
V+3D
To SPDL
CN501
DKN1312-A
V+5M
VCC 12
HU+ 11
HU- 10
HV+ 9
HV- 8
HW+ 7
HW- 6
HB 5
U 4
V 3
W 2
GNDD 1
C533 NM
C534 NM
C535 NM
GNDD
GNDM
To STEPPER
CN502
DKN1288-A
ST2+ 4
ST2- 3
ST1- 2
ST1+ 1
IC501
BD7956F
1 LDO-
2 LDO+
3 VCC
4 ACTIN1
5 ACTIN2
6 TJMON
7 BTHC
8 SPVM_S
9 PGND1
10 PGND2
11 U
12 SPVM1
13 V
14 fin1
15 PGND3
16 W
17 SPVM2
18 SPRNF
19 HB
20 HU+
21 HU-
22 HV+
23 HV-
24 HW+
25 HW-
26 SPIN
27 DGND
C510 68p/50
R516 12k
R515 33k
C509 33p/50
C508 1000p/50
C515 0.1u/25
C501 0.1u/16
C503 470p/50
C502 10u
R501 0.47
R502 0.33
C511 1u/16
STBY
R6001 NM
R322 NM
R323 NM
GNDS
GNDD


D 2/5
V+5M
VREF16
V+12M
FDRV
TDRV
TP520 TP521 TP522 TP523
R516 12k
R515 33k
C509 33p/50
IC501
BD7956FS
LDO- LDO+ VCC ACTIN1 ACTIN2 TJMON BTHC SPVM_S PGND1 PGND2 U SPVM1 V fin1 PGND3 W SPVM2 SPRNF HB HU+ HU- HV+ HV- HW+ HW- SPIN DGND
ACO1+ ACO1- ACO2+ ACO2- ACO3+ ACO3- AVM ACTIN3 LDIN AGND SPCNF FG VC fin2 SLO1+ SLO1- SLO2+ SLO2- SLGND CTL2 CTL1 SLRNF2 SLRNF1 SLVDD SLIN2 SLIN1 DVCC
C506 NM
C507 NM
T+ T- F+ F-
C505 0.1u/25
C532 0.1u/10
C516 0.1u/10
R505 12k
C504 0.1u/10
LO
FG
C503 470p/50
TP519 TP501
C511 1u/16
C536 NM
C537 NM
ST1+ ST1- ST2+ ST2-
⑲
⑱
R504 1k XDMUTE2
R503 1k XDMUTE1
C513 0.1u/16
R511 1.8
R510 1.8
C512 0.1u/16
C514 0.1u/25
R507 1k SL2
R506 1k SL1
MDRV
GNDM
V+3D
C286 10u
DCH1201-A
C280 1u
C287 1u
C281 1u
C288 0.1u/16
C282 1u
C283 1u
C289 1000p/50
IC201
K4S641632K-UC60
VDD1 DQ0 VDDQ1 DQ1 DQ2 VSSQ1 DQ3 DQ4 VDDQ2 DQ5 DQ6 VSSQ2 DQ7 VDD2 LDQM WE CAS RAS CS BA0 BA1 A10/AP A0 A1 A2 A3 VDD3
VSS3 DQ15 VSSQ4 DQ14 DQ13 VDDQ4 DQ12 DQ11 VSSQ3 DQ10 DQ9 VDDQ3 DQ8 VSS2 N.C/RFU UDQM CLK CKE N.C A11 A9 A8 A7 A6 A5 A4 VSS1
R319 33
R320 33
R318 33
R317 33
MD0 MD1 MD2 MD3 MD4 MD5 MD6 MD7
TP212
LDQM WEZ CASZ RASZ MBA MA10 MA0 MA1 MA2 MA3
C285 1u
C290 0.1u/16
C284 1u
C291 1000p/50
TP6121
MD15 MD14 MD13 MD12 MD11 MD10 MD9 MD8
UDQM
R281 0
MCLK MCKE
MA11 MA9 MA8 MA7 MA6 MA5 MA4
GNDD
R219 4.7k
R220 4.7k
MD0 MD1 MD2 MD5
R223 22
R222 47k
R221 47k
CN201
VKN2029-A
D2(PW) A13(ATA) D5(AG) D1(SL) D0(MA) GND XRESET TX_FE RX_FE V+3D
TP201 TP202 TP211 TP203 TP204 TP205 TP206 TP210 TP207 TP208 TP209
D 2/5 HADRS13
D 2/5, 3/5, 4/5, XRESET
REMO
REMI
SO
SCLK
R201 10k
CSOZ
SI
C203 NM
IC200
CE SO WP VSS VDD HOLD SCK SI
C202 NM
C201 NM
SST25V016BCS-TBB
D 2/5 3B:2.11K

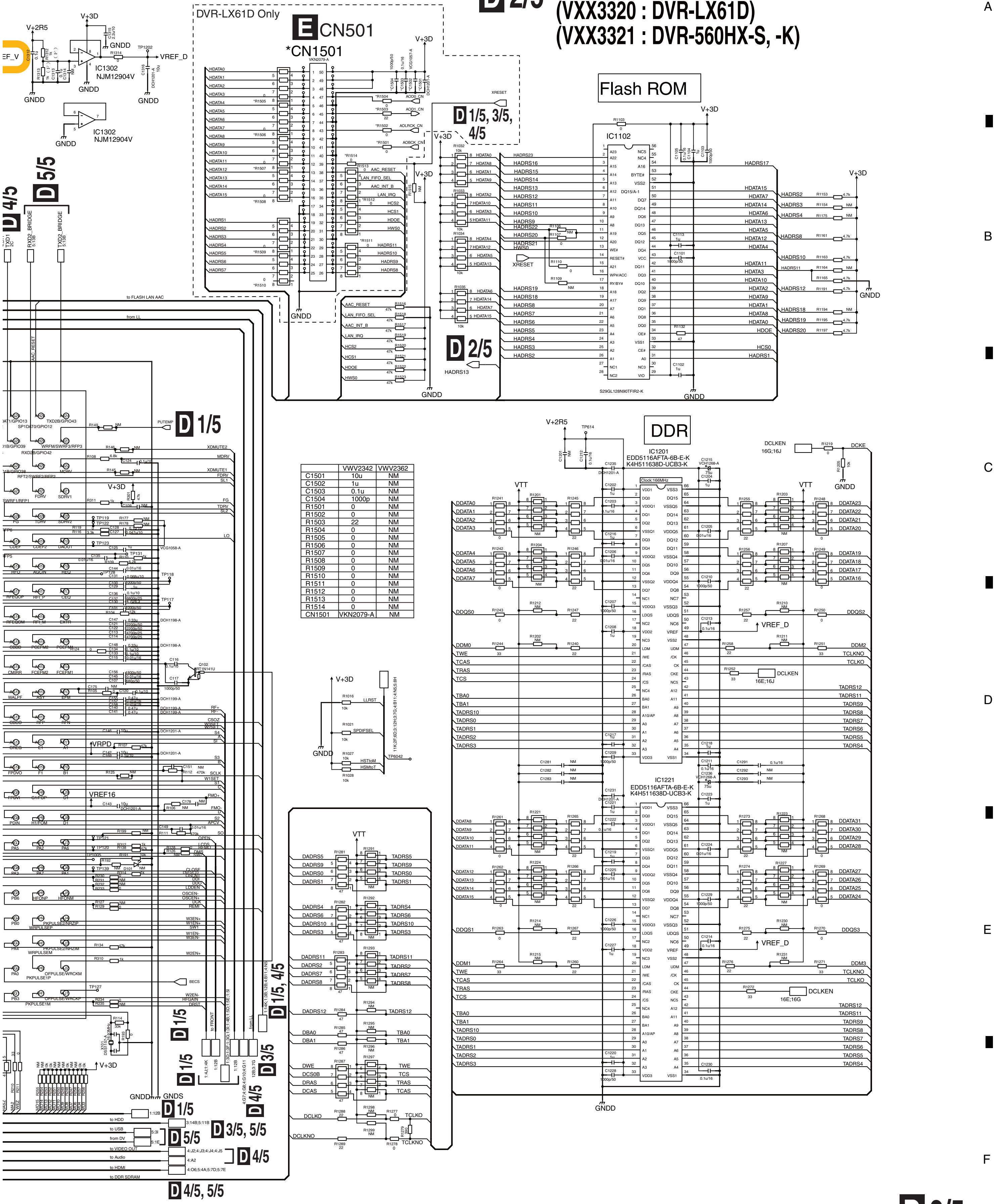
D 1/5

10.7 SERVICE MAIN ASSY (2/5)



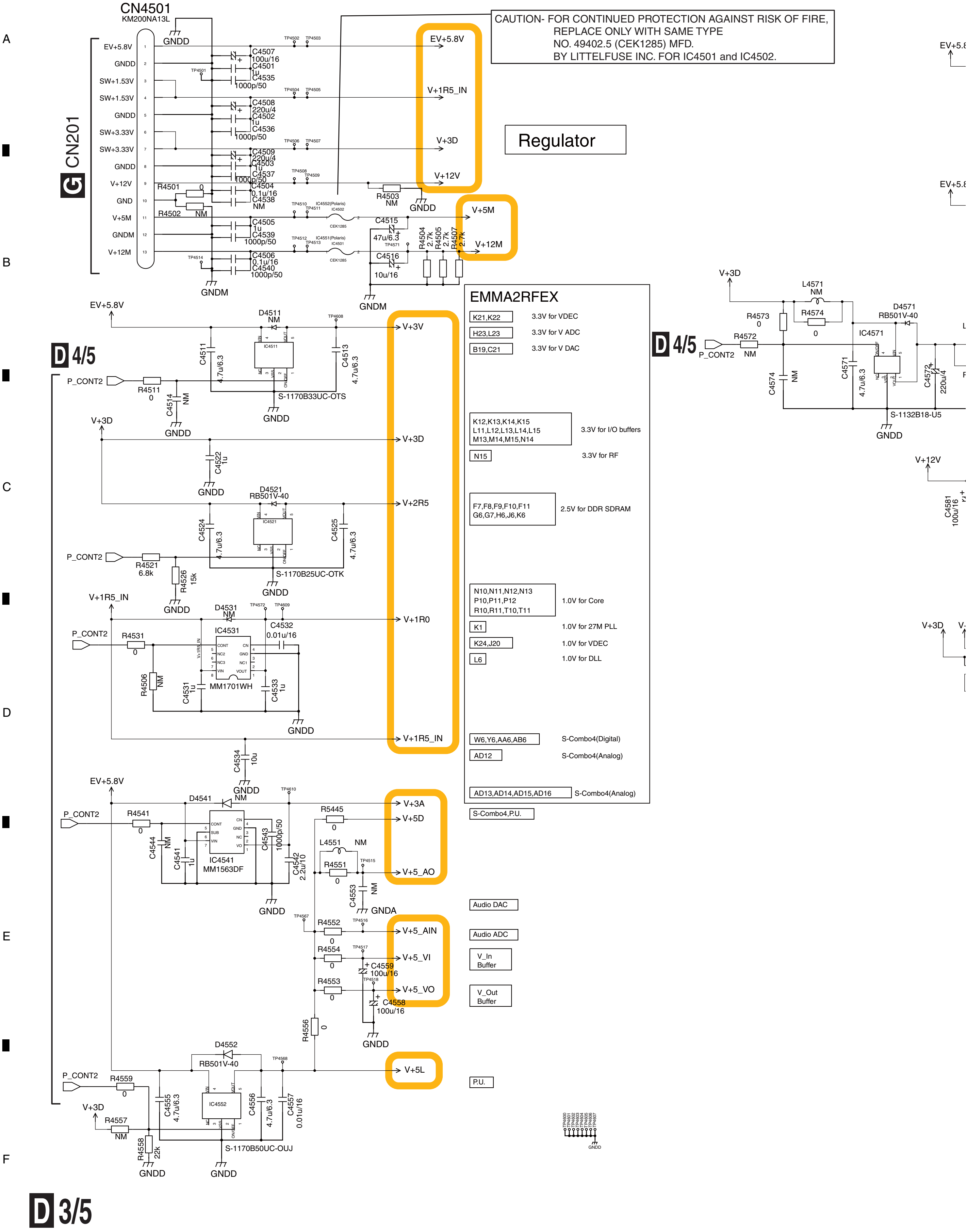
A
B
C
D
E
F
EJTAG
CN1401
VKN2030-A
TRST
EJSNGEN
TDI
GND
TDO
DINTEN
TMS
TCK
RST
JTSEL
DINT
V+3D
JTMRST
JTDI
JTDO
JTMS
JTCL
JTRST
EDINT
D 4/5
RS-232C
CN1402
RKN1048-A
TXD
RXD
DTR
CTS
V+5D
XRESET
TXD1
RXD
232RST
GNDD
HCL BPF
fsc BPF
MAIN CHIP
V+3V
V+2R5
VREF_V
IC1301
NJM12904V
IC1302
NJM129
V+3_DEC
V+1R0_DEC
V+3_ADC
V+3_DAC
24.576MHz
X1001
24
D 5/5
ADPOW
SPDIFSEL
SEL_ADATA
XS25P
TXD0_LL
RXD0_LL
RXD1
TXD1
RXD2_BRIDGE
TXD2_BRIDGE
V+3D_RF
V+3D_IO
IC1001
MC-10050F1-507LU1A-K
V+3A
GNDS
V+1R5_IN
V+15A
V+15D
V+1R0_CORE
V+1R0_DLL
V+1R0_PLL
VREF_D
VREF16
VRPD
27MHz
X1002
V+3HD
23
to DDR SDRAM
to HDMI
to Audio
to VIDEO OUT
from DV

D 2/5 SERVICE MAIN ASSY (2/5)
(VXX3320 : DVR-LX61D)
(VXX3321 : DVR-560HX-S, -K)


DVR-LX61D Only
E CN501
*CN1501
VKN2079-A
Flash ROM
IC1102
S29GL128N90TFIR2-K
DDR
IC1201
EDD5116AFTA-6B-E-K
K4H511638D-UCB3-K
IC1221
EDD5116AFTA-6B-E-K
K4H511638D-UCB3-K
IC1302
NJM12904V
V+3D
V+2R5
VREF_D
GNDD
VTT
XRESET
D 1/5, 3/5, 4/5
D 2/5
D 1/5
D 4/5
D 5/5
D 3/5
D 1/5, 4/5
D 3/5, 5/5
D 4/5, 5/5
DCLKEN
VREF_D
to FLASH LAN AAC
from LL
to HDD
to USB
from DV
to VIDEO OUT
to Audio
to HDMI
to DDR SDRAM
A
B
C
D
E
F

	VWV2342	VWV2362
C1501	10u	NM
C1502	1u	NM
C1503	0.1u	NM
C1504	1000p	NM
R1501	0	NM
R1502	0	NM
R1503	22	NM
R1504	0	NM
R1505	0	NM
R1506	0	NM
R1507	0	NM
R1508	0	NM
R1509	0	NM
R1510	0	NM
R1511	0	NM
R1512	0	NM
R1513	0	NM
R1514	0	NM
CN1501	VKN2079-A	NM

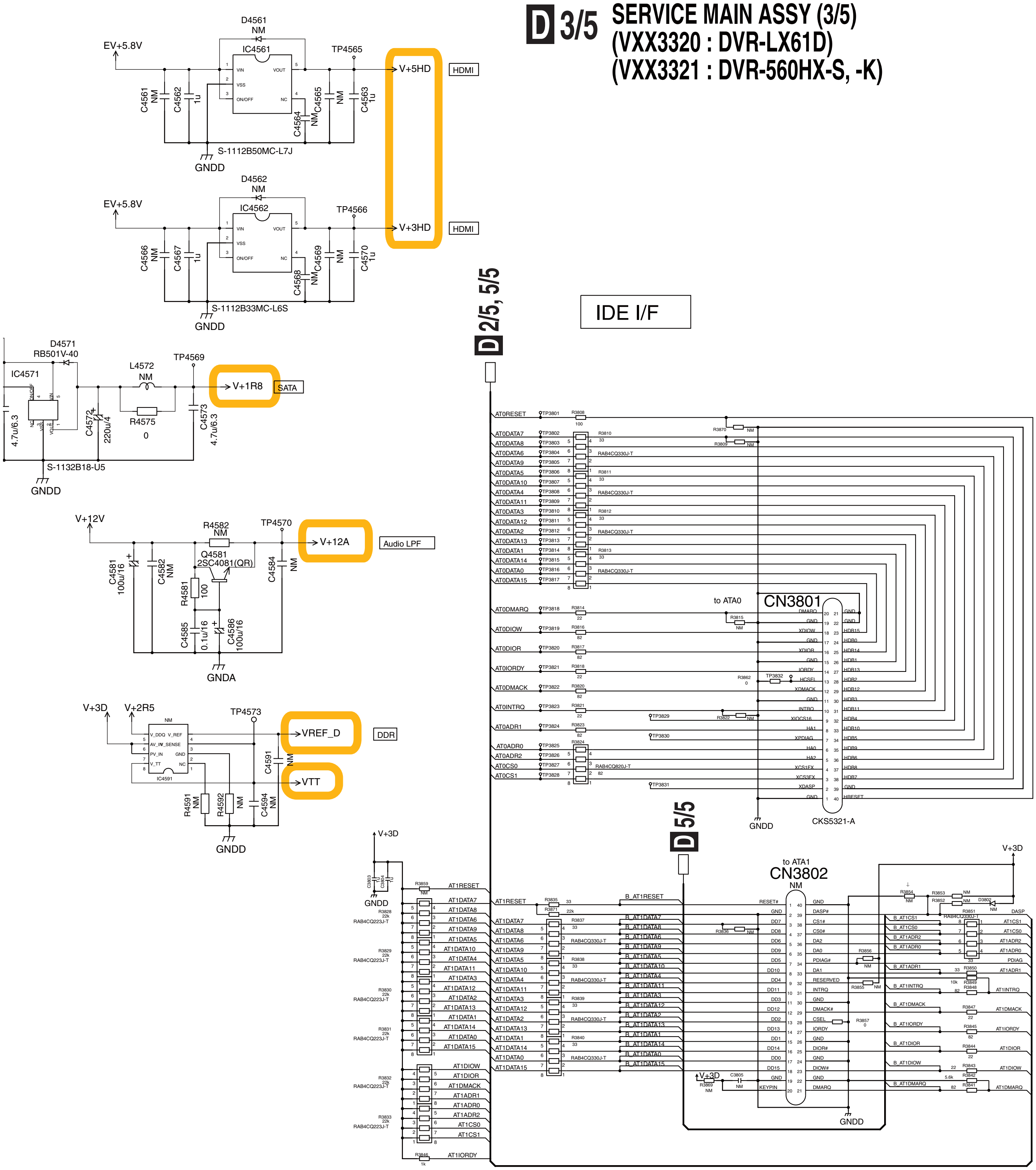
10.8 SERVICE MAIN ASSY (3/5)



CAUTION- FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE
NO. 49402.5 (CEK1285) MFD.
BY LITTELFUSE INC. FOR IC4501 and IC4502.

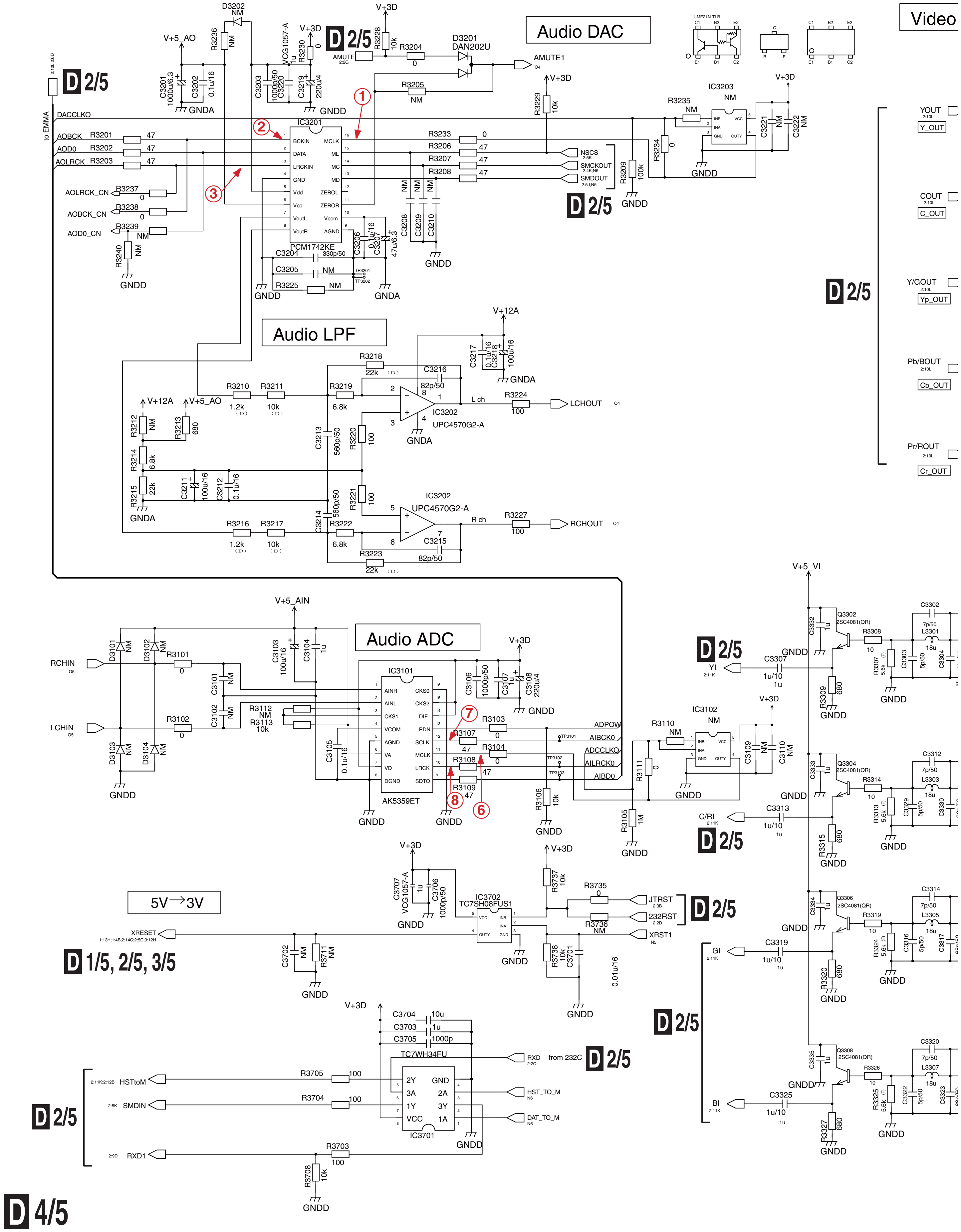
A
B
C
D
E
F
CN4501
KM200NA13L
G CN201
EV+5.8V
GNDD
SW+1.53V
SW+1.53V
GNDD
SW+3.33V
SW+3.33V
GNDD
V+12V
GND
V+5M
GNDM
V+12M
C4507 100u/16
C4501 1u
C4535 1000p/50
C4508 220u/4
C4502 1u
C4536 1000p/50
C4509 220u/4
C4503 1u
C4537 1000p/50
C4504 0.1u/16
C4538 NM
C4505 1u
C4539 1000p/50
C4506 0.1u/16
C4540 1000p/50
R4501 0
R4502 NM
R4503 NM
IC4502 (Polaris) CEK1285
IC4501 (Polaris) CEK1285
C4515 47u/6.3
C4516 10u/16
R4504 2.7k
R4505 2.7k
R4507 2.7k
GNDM
V+1R5_IN
V+3D
V+12V
V+5M
V+12M
Regulator
EMMA2RFEX
K21,K22 3.3V for VDEC
H23,L23 3.3V for V ADC
B19,C21 3.3V for V DAC
K12,K13,K14,K15 L11,L12,L13,L14,L15 M13,M14,M15,N14 3.3V for I/O buffers
N15 3.3V for RF
F7,F8,F9,F10,F11 G6,G7,H6,J6,K6 2.5V for DDR SDRAM
N10,N11,N12,N13 P10,P11,P12 R10,R11,T10,T11 1.0V for Core
K1 1.0V for 27M PLL
K24,J20 1.0V for VDEC
L6 1.0V for DLL
W6,Y6,AA6,AB6 S-Combo4(Digital)
AD12 S-Combo4(Analog)
AD13,AD14,AD15,AD16 S-Combo4(Analog)
S-Combo4,P.U.
Audio DAC
Audio ADC
V_In Buffer
V_Out Buffer
P.U.
D 4/5
P_CONT2
R4511 0
C4514 NM
D4511 NM
IC4511
C4511 4.7u/6.3
C4513 4.7u/6.3
S-1170B33UC-OTS
V+3V
V+3D
C4522 1u
D4521 RB501V-40
IC4521
C4524 4.7u/6.3
C4525 4.7u/6.3
R4521 6.8k
R4526 15k
S-1170B25UC-OTK
V+2R5
V+1R5_IN
D4531 NM
IC4531
MM1701WH
C4532 0.01u/16
R4531 0
R4506 NM
C4531 1u
C4533 1u
V+1R0
C4534 10u
EV+5.8V
D4541 NM
R4541 0
C4544 NM
C4541 1u
IC4541 MM1563DF
C4543 1000p/50
C4542 2.2u/10
R5445 0
L4551 NM
R4551 0
C4553 NM
GNDA
V+3A
V+5D
V+5_AO
R4552 0
R4554 0
R4553 0
C4559 100u/16
C4558 100u/16
R4556 0
V+5_AIN
V+5_VI
V+5_VO
D4552 RB501V-40
R4559 0
R4557 NM
R4558 22k
IC4552
C4555 4.7u/6.3
C4556 4.7u/6.3
C4557 0.01u/16
S-1170B50UC-OUJ
V+5L
D 3/5
L4571 NM
R4573 0
R4574 0
D4571 RB501V-40
R4572 NM
IC4571
C4574 NM
C4571 4.7u/6.3
C4572 220u/4
S-1132B18-U5
C4581 100u/16
GNDD

D 3/5 SERVICE MAIN ASSY (3/5)
(VXX3320 : DVR-LX61D)
(VXX3321 : DVR-560HX-S, -K)

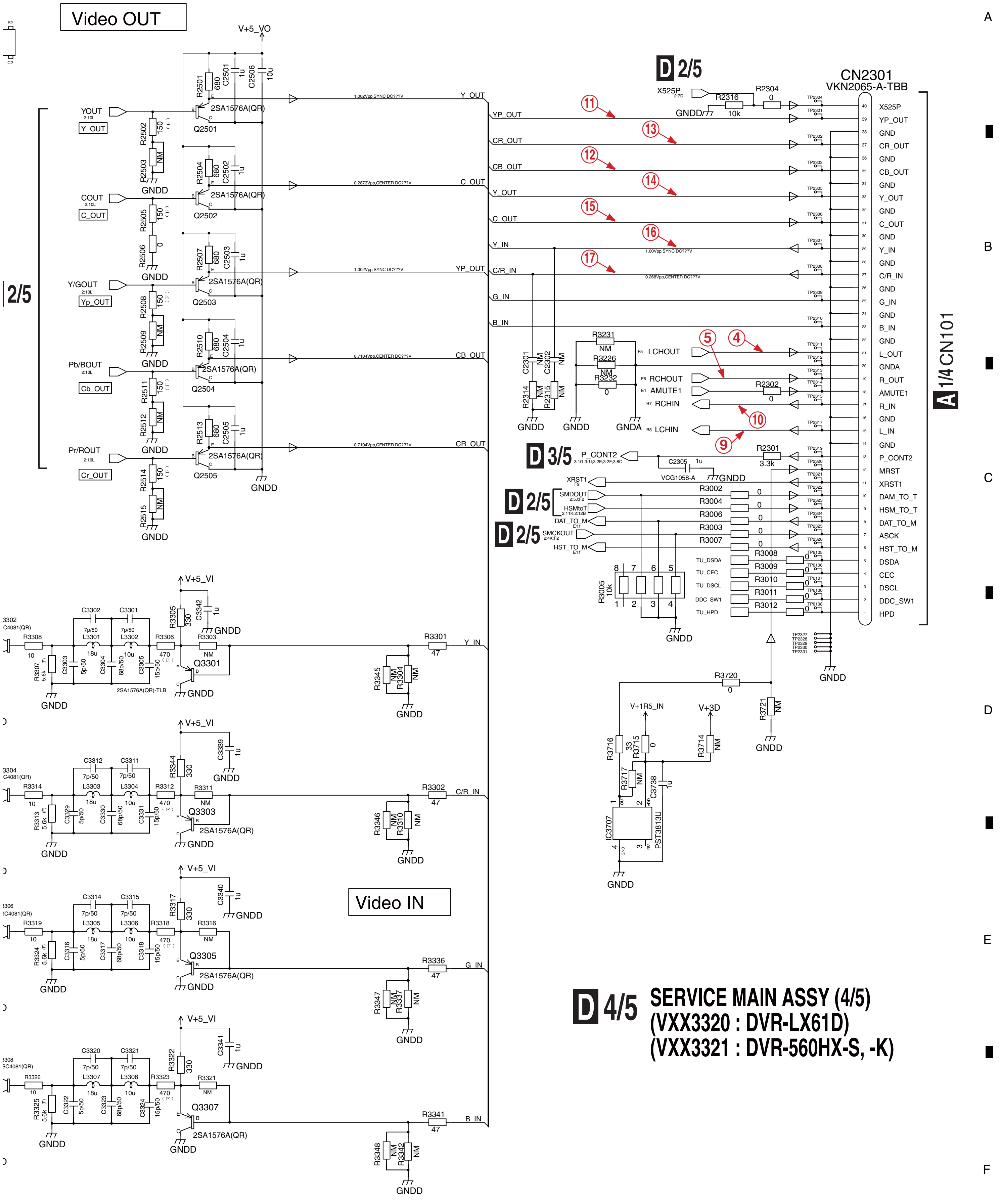

D4561
NM
IC4561
EV+5.8V
TP4565
V+5HD
HDMI
C4561 NM
C4562 1u
C4564 NM
C4565 NM
C4563 1u
S-1112B50MC-L7J
GNDD
D4562
NM
IC4562
EV+5.8V
TP4566
V+3HD
HDMI
C4566 NM
C4567 1u
C4568 NM
C4569 NM
C4570 1u
S-1112B33MC-L6S
GNDD
D4571
RB501V-40
IC4571
L4572
NM
TP4569
V+1R8
SATA
4.7u/6.3
C4572 220u/4
R4575 0
C4573 4.7u/6.3
S-1132B18-U5
GNDD
V+12V
R4582 NM
TP4570
V+12A
Audio LPF
Q4581
2SC4081(QR)
C4581 100u/16
C4582 NM
R4581 100
C4584 NM
C4585 0.1u/16
C4586 100u/16
GNDA
V+3D
V+2R5
TP4573
VREF_D
DDR
VTT
IC4591
C4591 NM
R4591 NM
R4592 NM
C4594 NM
GNDD
D 2/5, 5/5
IDE I/F
to ATA0
CN3801
CKS5321-A
GNDD
D 5/5
V+3D
to ATA1
CN3802
NM
GNDD

D 3/5

10.9 SERVICE MAIN ASSY (4/5)



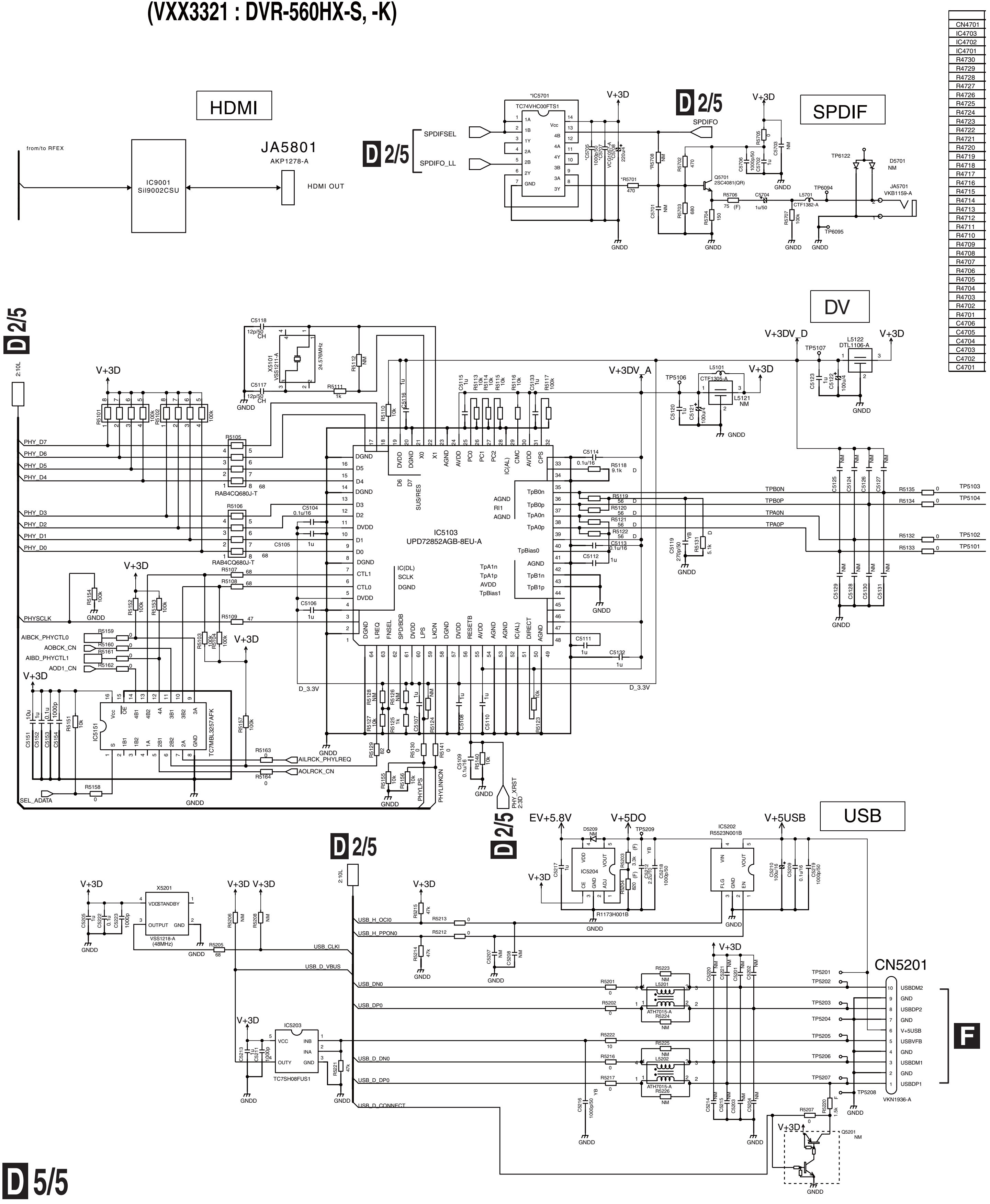
Audio DAC
Audio LPF
Audio ADC
Video
5V→3V
D 2/5
D 1/5, 2/5, 3/5
D 4/5
to EMMA
DACCLKO
AOBCK
AOD0
AOLRCK
AOLRCK_CN
AOBCK_CN
AOD0_CN
IC3201
PCM1742KE
BCKIN
DATA
LRCKIN
GND
Vdd
Vcc
VoutL
VoutR
MCLK
ML
MC
MD
ZEROL
ZEROR
Vcom
AGND
D3202 NM
D3201 DAN202U
AMUTE
AMUTE1
V+5_AO
V+3D
V+12A
V+5_AIN
V+5_VI
GNDA
GNDD
VCG1057-A
NSCS
SMCKOUT
SMDOUT
IC3203 NM
IC3202 UPC4570G2-A
L ch
R ch
LCHOUT
RCHOUT
RCHIN
LCHIN
IC3101 AK5359ET
AINR
AINL
CKS1
VCOM
AGND
VA
VD
DGND
CKS0
CKS2
DIF
PDN
SCLK
MCLK
LRCK
SDTO
ADPOW
AIBCK0
ADCCLKO
AILRCK0
AIBD0
IC3102 NM
IC3702 TC7SH08FUS1
XRESET
JTRST
232RST
XRST1
IC3701 TC7WH34FU
HSTtoM
SMDIN
RXD1
RXD
from 232C
HST_TO_M
DAT_TO_M
YOUT
Y_OUT
COUT
C_OUT
Y/GOUT
Yp_OUT
Pb/BOUT
Cb_OUT
Pr/ROUT
Cr_OUT
YI
C/RI
GI
BI
Q3302 2SC4081(QR)
Q3304 2SC4081(QR)
Q3306 2SC4081(QR)
Q3308 2SC4081(QR)
UMF21N-TLB
①
②
③
⑥
⑦
⑧


Video OUT
V+5_VO
YOUT
Y_OUT
COUT
C_OUT
Y/GOUT
Yp_OUT
Pb/BOUT
Cb_OUT
Pr/ROUT
Cr_OUT
2/5
R2501 680
C2501 1u
C2506 10u
R2502 150
R2503 NM
Q2501 2SA1576A(QR)
R2504 680
C2502 1u
R2505 150
R2506 0
Q2502 2SA1576A(QR)
R2507 680
C2503 1u
R2508 150
R2509 NM
Q2503 2SA1576A(QR)
R2510 680
C2504 1u
R2511 150
R2512 NM
Q2504 2SA1576A(QR)
R2513 680
C2505 1u
R2514 150
R2515 NM
Q2505 2SA1576A(QR)
GNDD
1.002Vpp,SYNC DC???V
0.2873Vpp,CENTER DC???V
0.7104Vpp,CENTER DC???V
Y_OUT
C_OUT
YP_OUT
CB_OUT
CR_OUT
Y_IN
C/R_IN
G_IN
B_IN
1.00Vpp,SYNC DC???V
0.268Vpp,CENTER DC???V
D 2/5
X525P
R2316 10k
R2304 0
CN2301
VKN2065-A-TBB
40 X525P
39 YP_OUT
38 GND
37 CR_OUT
36 GND
35 CB_OUT
34 GND
33 Y_OUT
32 GND
31 C_OUT
30 GND
29 Y_IN
28 GND
27 C/R_IN
26 GND
25 G_IN
24 GND
23 B_IN
22 GND
21 L_OUT
20 GNDA
19 R_OUT
18 AMUTE1
17 R_IN
16 GND
15 L_IN
14 GND
13 P_CONT2
12 MRST
11 XRST1
10 DAM_TO_T
9 HSM_TO_T
8 DAT_TO_M
7 ASCK
6 HST_TO_M
5 DSDA
4 CEC
3 DSCL
2 DDC_SW1
1 HPD
A 1/4 CN101
⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ④ ⑤ ⑨ ⑩
R3231 NM
R3226 NM
R3232 0
C2301 NM
C2302 NM
R2314 NM
R2315 NM
LCHOUT
RCHOUT
AMUTE1
RCHIN
LCHIN
R2302 0
GNDA
D 3/5
P_CONT2
C2305 1u
R2301 3.3k
VCG1058-A
XRST1
SMDOUT
HSMtoT
DAT_TO_M
SMCKOUT
HST_TO_M
R3002 0
R3004 0
R3006 0
R3003 0
R3007 0
R3008 0
R3009 0
R3010 0
R3011 0
R3012 0
TU_DSDA
TU_CEC
TU_DSCL
DDC_SW1
TU_HPD
R3005 10k
R3720 0
R3721 NM
V+1R5_IN
V+3D
R3716 33
R3715 0
R3714 NM
R3717 NM
C3738 1u
IC3707
PST3813U
V+5_VI
C3302 7p/50
C3301 7p/50
L3301 18u
L3302 10u
R3308 10
R3307 5.6k
C3303 5p/50
C3304 68p/50
C3305 15p/50
R3306 470
R3305 330
C3342 1u
R3303 NM
Q3301 2SA1576A(QR)-TLB
R3301 47
R3345 NM
R3304 NM
Y_IN
C3312 7p/50
C3311 7p/50
L3303 18u
L3304 10u
R3314 10
R3313 5.6k
C3329 5p/50
C3330 68p/50
C3331 15p/50
R3312 470
R3344 330
C3339 1u
R3311 NM
Q3303 2SA1576A(QR)
R3302 47
R3346 NM
R3310 NM
C/R_IN
C3314 7p/50
C3315 7p/50
L3305 18u
L3306 10u
R3319 10
R3324 5.6k
C3316 5p/50
C3317 68p/50
C3318 15p/50
R3318 470
R3317 330
C3340 1u
R3316 NM
Q3305 2SA1576A(QR)
R3336 47
R3347 NM
R3337 NM
G_IN
C3320 7p/50
C3321 7p/50
L3307 18u
L3308 10u
R3326 10
R3325 5.6k
C3322 5p/50
C3323 68p/50
C3324 15p/50
R3323 470
R3322 330
C3341 1u
R3321 NM
Q3307 2SA1576A(QR)
R3341 47
R3348 NM
R3342 NM
B_IN
Video IN

D 4/5 SERVICE MAIN ASSY (4/5)
(VXX3320 : DVR-LX61D)
(VXX3321 : DVR-560HX-S, -K)

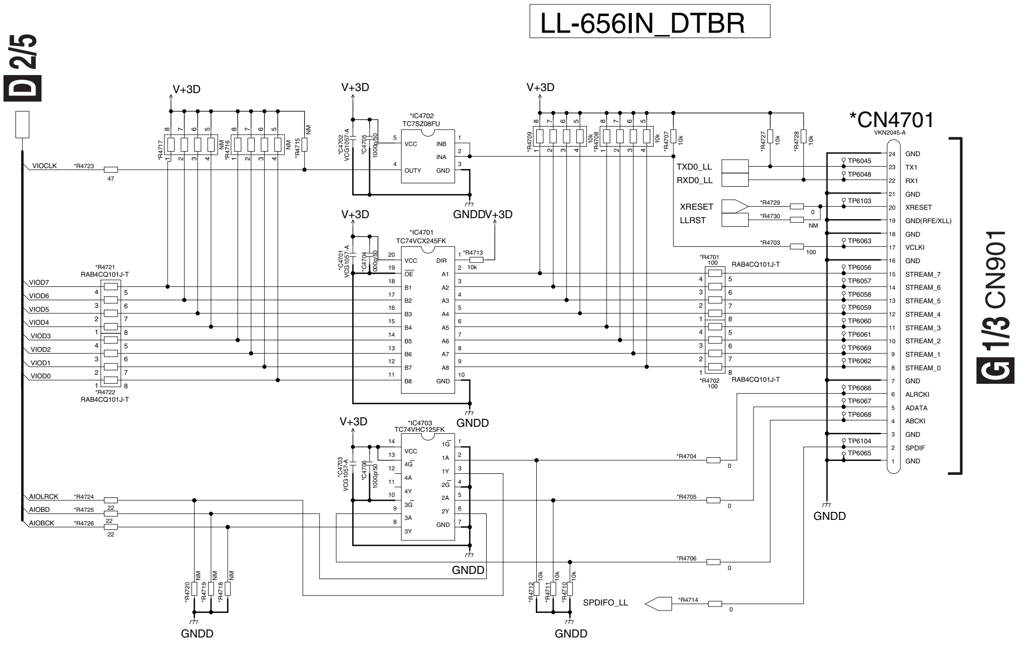
10.10 SERVICE MAIN ASSY (5/5)

D 5/5 SERVICE MAIN ASSY (5/5)
(VXX3320 : DVR-LX61D)
(VXX3321 : DVR-560HX-S, -K)

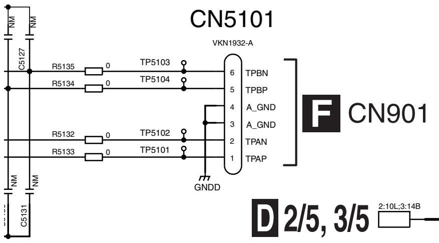

HDMI
from/to RFEX
IC9001
SiI9002CSU
JA5801
AKP1278-A
HDMI OUT
D 2/5
SPDIFSEL
SPDIFO_LL
*IC5701
TC74VHC00FTS1
V+3D
SPDIFO
SPDIF
Q5701
2SC4081(QR)
TP6122
D5701
NM
JA5701
VKB1159-A
TP6094
TP6095
L5701
CTF1382-A
GNDD
CN4701
IC4703
IC4702
IC4701
R4730
R4729
R4728
R4727
R4726
R4725
R4724
R4723
R4722
R4721
R4720
R4719
R4718
R4717
R4716
R4715
R4714
R4713
R4712
R4711
R4710
R4709
R4708
R4707
R4706
R4705
R4704
R4703
R4702
R4701
C4706
C4705
C4704
C4703
C4702
C4701
DV
V+3DV_D
V+3DV_A
L5122
DTL1106-A
TP5107
L5101
CTF1305-A
L5121
NM
TP5106
X5101
VSS1211-A
24.576MHz
PHY_D7
PHY_D6
PHY_D5
PHY_D4
PHY_D3
PHY_D2
PHY_D1
PHY_D0
PHYSCLK
RAB4CQ680J-T
IC5103
UPD72852AGB-8EU-A
TPB0N
TPB0P
TPA0N
TPA0P
TP5103
TP5104
TP5102
TP5101
AIBCK_PHYCTL0
AOBCK_CN
AIBD_PHYCTL1
AOD1_CN
IC5151
TC7MBL3257AFK
AILRCK_PHYLREQ
AOLRCK_CN
SEL_ADATA
PHYLPS
PHYLINKON
PHY_XRST
D_3.3V
USB
EV+5.8V
V+5DO
V+5USB
IC5204
R1173H001B
IC5202
R5523N001B
X5201
VSS1218-A
(48MHz)
USB_H_OCI0
USB_H_PPON0
USB_CLKI
USB_D_VBUS
USB_DN0
USB_DP0
USB_D_DN0
USB_D_DP0
USB_D_CONNECT
IC5203
TC7SH08FUS1
L5201
ATH7015-A
L5202
ATH7015-A
CN5201
VKN1936-A
USBDM2
GND
USBDP2
GND
V+5USB
USBVFB
GND
USBDM1
GND
USBDP1
TP5201
TP5202
TP5203
TP5204
TP5205
TP5206
TP5207
TP5208
Q5201
NM
F
D 5/5

	VWV2342	VWV2362
CN4701	VKN2045A	VKN2045A
IC4703	TC74VHC125FK	TC74VHC125FK
IC4702	TC7SZ08FU	TC7SZ08FU
IC4701	TC74VCX245FK	TC74VCX245FK
R4730	NM	NM
R4729	0	0
R4728	10k	10k
R4727	10k	10k
R4726	22	22
R4725	22	22
R4724	22	22
R4723	47	47
R4722	100	100
R4721	100	100
R4720	NM	NM
R4719	NM	NM
R4718	NM	NM
R4717	NM	NM
R4716	NM	NM
R4715	NM	NM
R4714	0	0
R4713	10k	10k
R4712	10k	10k
R4711	10k	10k
R4710	10k	10k
R4709	10k	10k
R4708	10k	10k
R4707	10k	10k
R4706	0	0
R4705	0	0
R4704	0	0
R4703	100	100
R4702	100	100
R4701	100	100
C4706	1000p	1000p
C4705	1000p	1000p
C4704	1000p	1000p
C4703	1u	1u
C4702	1u	1u
C4701	1u	1u

D5701
NM
JA5701
VKB1159-A
V+3D
3



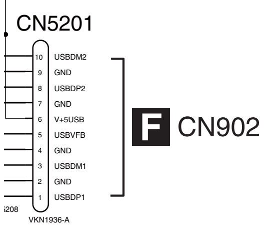
LL-656IN_DTBR
D 2/5
V+3D
*IC4702
TC7SZ08FU
VCC
INB
INA
OUTY
GND
GNDDV+3D
*IC4701
TC74VCX245FK
DIR
OE
A1
A2
A3
A4
A5
A6
A7
A8
B1
B2
B3
B4
B5
B6
B7
B8
GND
*IC4703
TC74VHC125FK
GNDD
VIOCLK
*R4723
47
VIOD7
VIOD6
VIOD5
VIOD4
VIOD3
VIOD2
VIOD1
VIOD0
*R4721
RAB4CQ101J-T
*R4722
RAB4CQ101J-T
AIOLRCK
AIOBD
AIOBCK
*R4724
*R4725
*R4726
22
*R4720
*R4719
*R4718
NM
*R4713
10k
*R4701
100
*R4702
100
RAB4CQ101J-T
TXD0_LL
RXD0_LL
XRESET
LLRST
*R4729
*R4730
*R4703
*R4727
*R4728
10k
*R4704
*R4705
*R4706
*R4714
0
*R4712
*R4711
*R4710
SPDIFO_LL
GNDD
*CN4701
VKN2045-A
TP6045
TP6048
TP6103
TP6063
TP6056
TP6057
TP6058
TP6059
TP6060
TP6061
TP6069
TP6062
TP6066
TP6067
TP6068
TP6104
TP6065
GND
TX1
RX1
GND
XRESET
GND(RFE/XLL)
GND
VCLKI
GND
STREAM_7
STREAM_6
STREAM_5
STREAM_4
STREAM_3
STREAM_2
STREAM_1
STREAM_0
GND
ALRCKI
ADATA
ABCKI
GND
SPDIF
GND
G 1/3 CN901



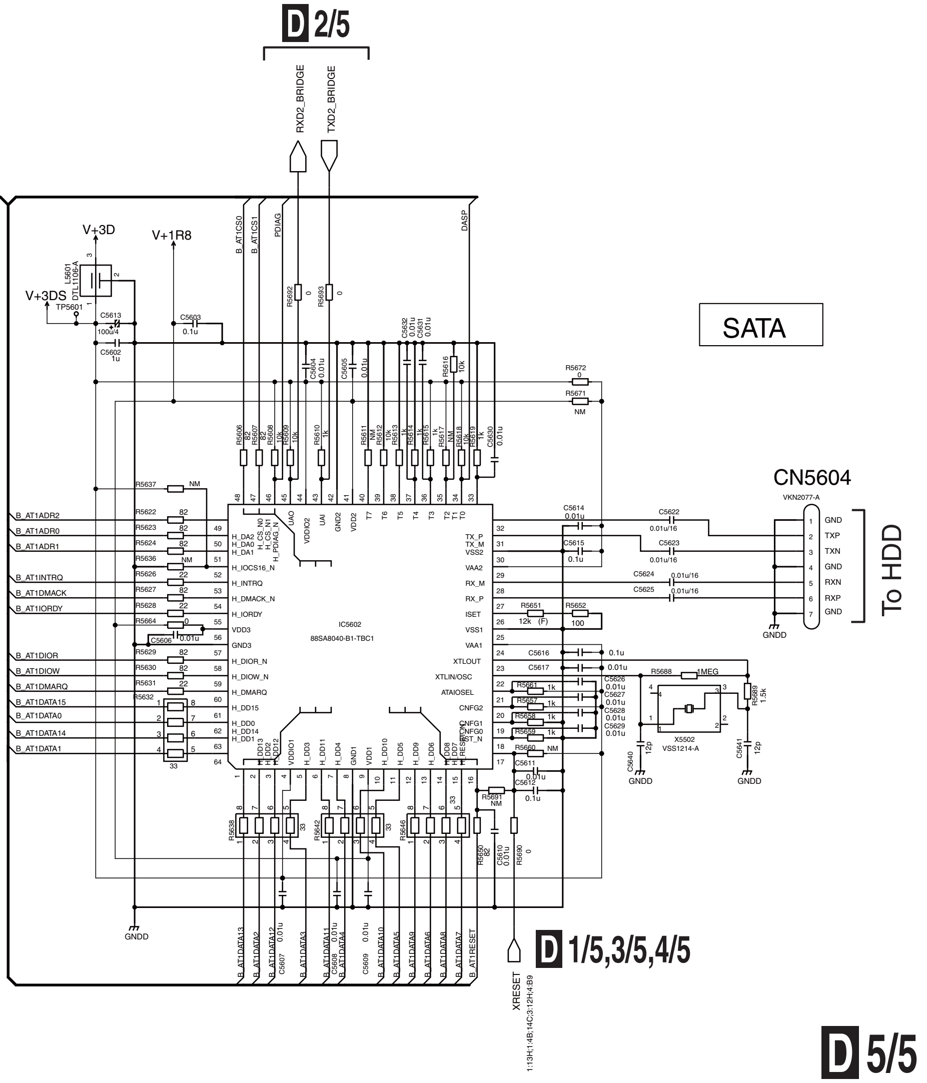
NM
C5127
C5131
CN5101
VKN1932-A
R5135
R5134
R5132
R5133
0
TP5103
TP5104
TP5102
TP5101
TPBN
TPBP
A_GND
A_GND
TPAN
TPAP
GNDD
F CN901

SB

	VWV2342	VWV2362
C5705	1000p	1000p
C5707	1u	1u
C5708	220u	220u
R5701	470	470
R5708	NM	NM
IC5701	TC74VHC00FTS1	TC74VHC00FTS1



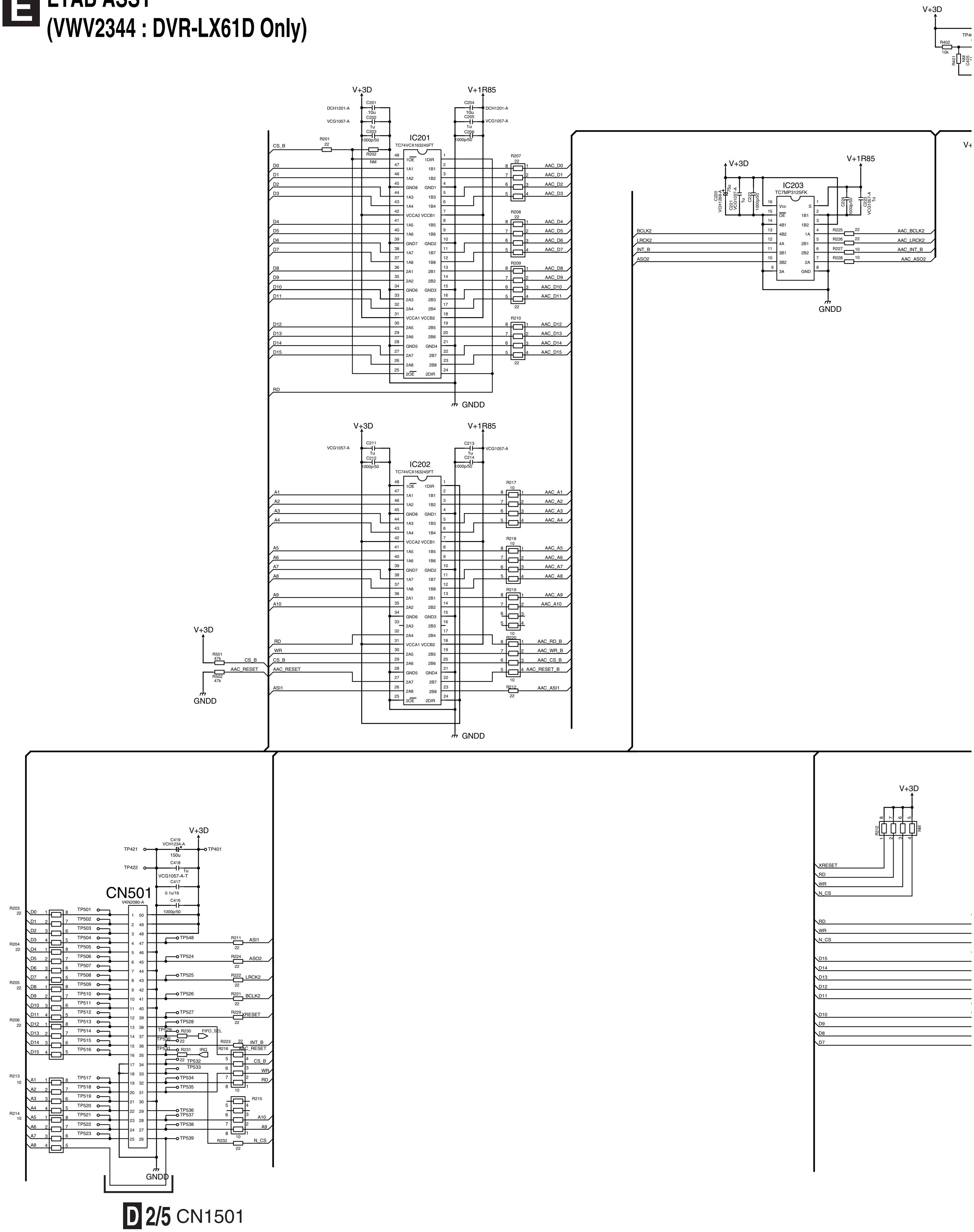
CN5201
USBDM2
GND
USBDP2
GND
V+5USB
USBVFB
GND
USBDM1
GND
USBDP1
VKN1936-A
F CN902

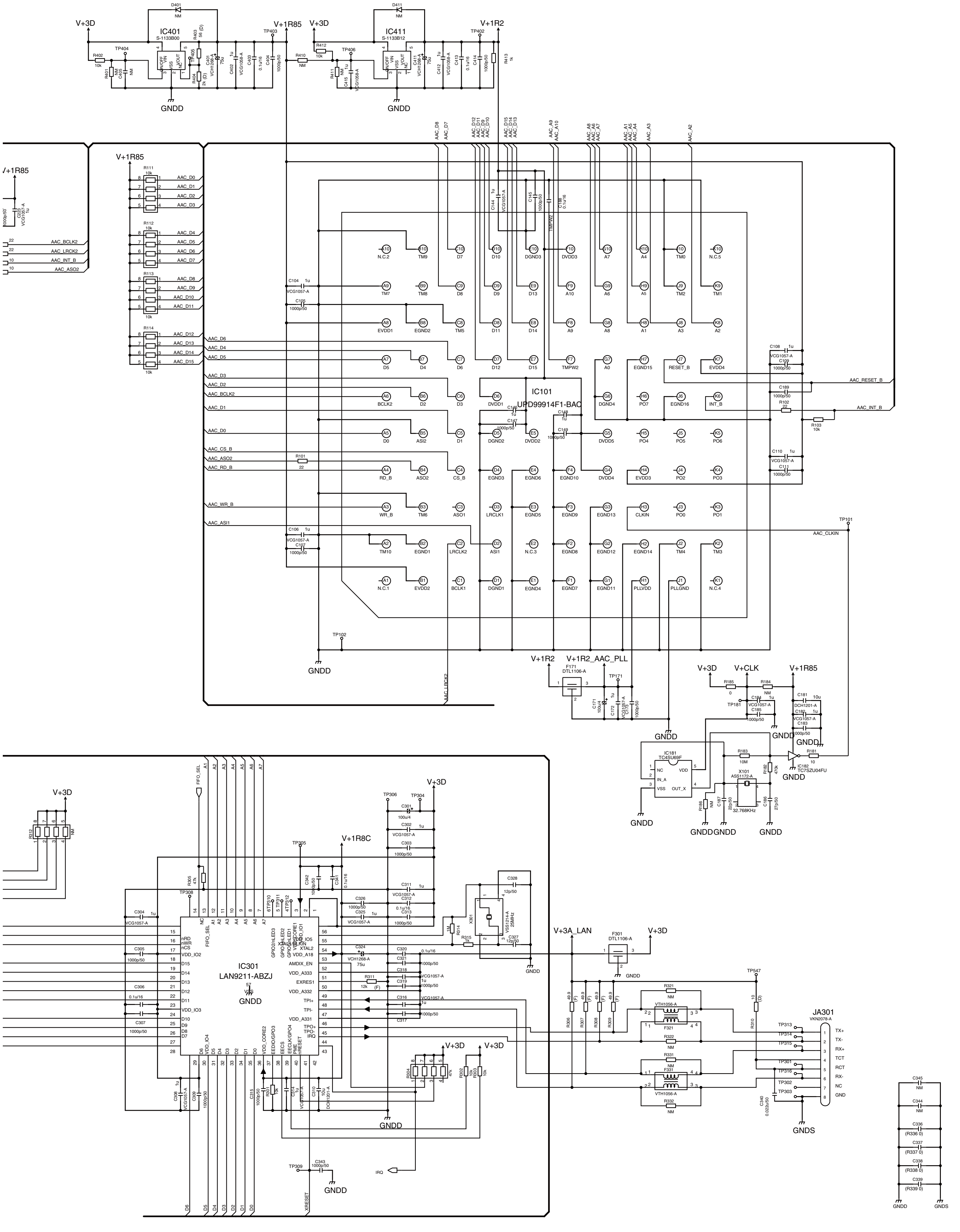


D 2/5
RXD2_BRIDGE
TXD2_BRIDGE
D 2/5, 3/5
2:10L;3:14B
V+3D
V+1R8
V+3DS
L5601
DTL1106-A
TP5601
C5613
100u/4
C5602
1u
C5603
0.1u
B_AT1CS0
B_AT1CS1
PDIAG
DASP
R5692
R5693
SATA
IC5602
88SA8040-B1-TBC1
B_AT1ADR2
B_AT1ADR0
B_AT1ADR1
B_AT1INTRQ
B_AT1DMACK
B_AT1IORDY
B_AT1DIOR
B_AT1DIOW
B_AT1DMARQ
B_AT1DATA15
B_AT1DATA0
B_AT1DATA14
B_AT1DATA1
H_DA2
H_DA0
H_DA1
H_CS_N0
H_CS_N1
H_PDIAG_N
H_IOCS16_N
H_INTRQ
H_DMACK_N
H_IORDY
VDD3
GND3
H_DIOR_N
H_DIOW_N
H_DMARQ
H_DD15
H_DD0
H_DD14
H_DD1
TX_P
TX_M
VSS2
VAA2
RX_M
RX_P
ISET
VSS1
VAA1
XTLOUT
XTLIN/OSC
ATAIOSEL
CNFG2
CNFG1
CNFG0
RST_N
CN5604
VKN2077-A
GND
TXP
TXN
GND
RXN
RXP
GND
To HDD
R5672
R5671
NM
C5614
C5615
C5622
C5623
C5624
C5625
0.01u/16
R5651
12k (F)
R5652
100
C5616
C5617
0.1u
0.01u
R5688
1MEG
R5689
1.5k
X5502
VSS1214-A
C5640
C5641
12p
GNDD
B_AT1DATA13
B_AT1DATA2
B_AT1DATA12
B_AT1DATA3
B_AT1DATA11
B_AT1DATA4
B_AT1DATA10
B_AT1DATA5
B_AT1DATA9
B_AT1DATA6
B_AT1DATA8
B_AT1DATA7
B_AT1RESET
C5607
C5608
C5609
R5638
R5642
R5646
R5650
R5690
R5691
XRESET
1:13H;1:4B;14C;3:12H;4:B9
D 1/5,3/5,4/5
GNDD

10.11 ETAB ASSY (DVR-LX61D ONLY)

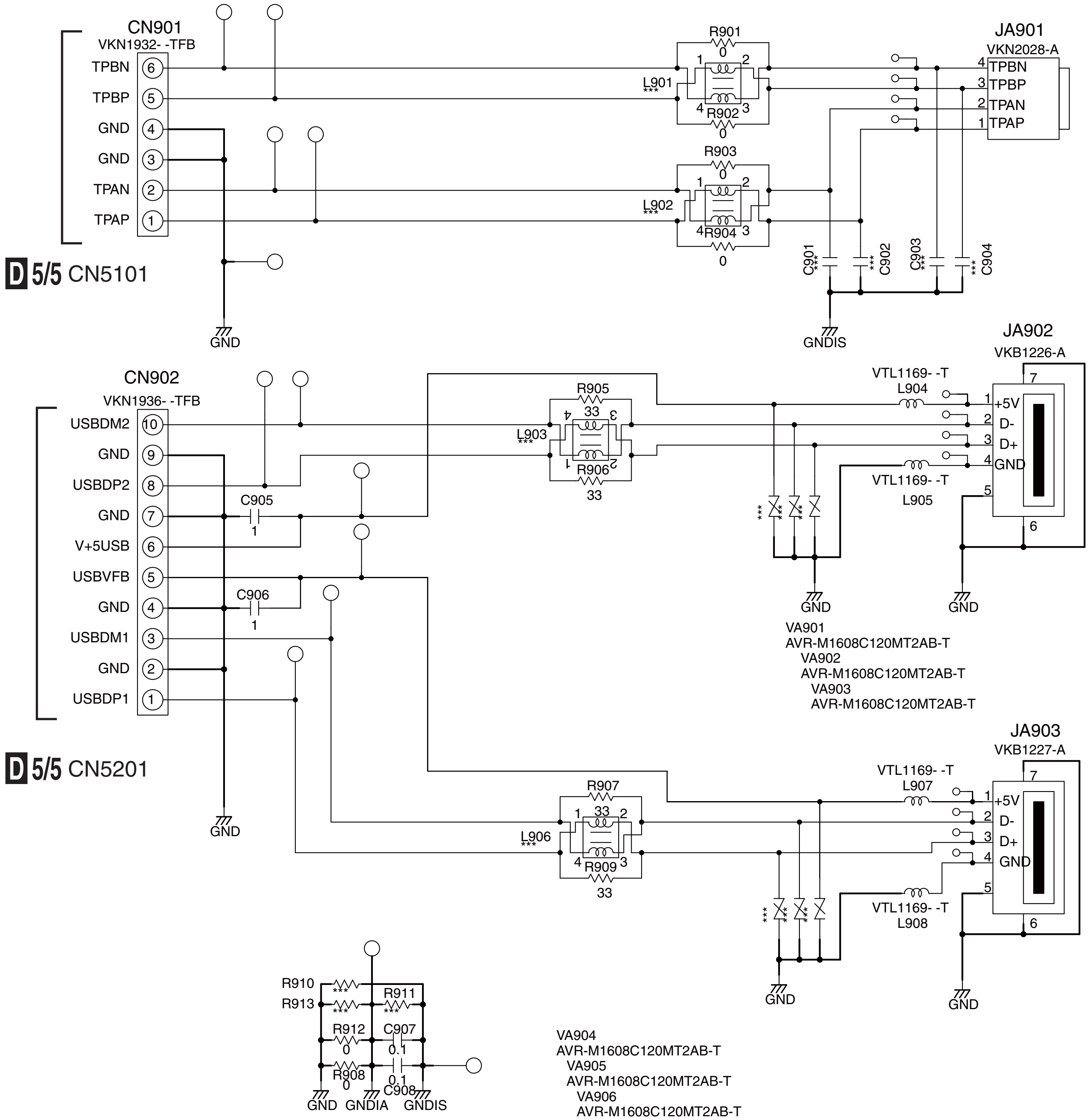
E ETAB ASSY
(VWV2344 : DVR-LX61D Only)


V+3D
V+1R85
IC201
TC74VCX163245FT
IC202
TC74VCX163245FT
IC203
TC7MP3125FK
CS_B
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
RD
WR
AAC_D0
AAC_D1
AAC_D2
AAC_D3
AAC_D4
AAC_D5
AAC_D6
AAC_D7
AAC_D8
AAC_D9
AAC_D10
AAC_D11
AAC_D12
AAC_D13
AAC_D14
AAC_D15
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
AAC_A1
AAC_A2
AAC_A3
AAC_A4
AAC_A5
AAC_A6
AAC_A7
AAC_A8
AAC_A9
AAC_A10
AAC_RD_B
AAC_WR_B
AAC_CS_B
AAC_RESET_B
AAC_RESET
ASI1
AAC_ASI1
BCLK2
LRCK2
INT_B
ASO2
AAC_BCLK2
AAC_LRCK2
AAC_INT_B
AAC_ASO2
GNDD
R201
R202
R207
R208
R209
R210
R217
R218
R219
R220
R212
R225
R226
R227
R228
R501
R502
R402
R401
C201
C202
C203
C204
C205
C206
C211
C212
C213
C214
C220
C221
C222
C223
C224
DCH1201-A
VCG1057-A
CN501
VKN2080-A
C416
C417
C418
C419
VCH1234-A
TP401
TP421
TP422
R203
R204
R205
R206
R213
R214
R211
R224
R222
R221
R229
R223
R216
R215
R230
R231
R232
FIFO_SEL
IRQ
XRESET
LRCK2
BCLK2
ASO2
N_CS
R312
NM
D 2/5 CN1501


A
B
C
D
E
F
V+3D
IC401
S-1133B00
D401
NM
V+1R85
TP403
IC411
S-1133B12
D411
V+1R2
TP402
TP404
TP406
R402 10k
R403 56 (D)
R404 2k (D)
R410 NM
R412 10k
R413 1k
GNDD
V+1R85
R111 10k
R112 10k
R113 10k
R114 10k
AAC_D0
AAC_D1
AAC_D2
AAC_D3
AAC_D4
AAC_D5
AAC_D6
AAC_D7
AAC_D8
AAC_D9
AAC_D10
AAC_D11
AAC_D12
AAC_D13
AAC_D14
AAC_D15
AAC_BCLK2
AAC_LRCK2
AAC_INT_B
AAC_ASO2
AAC_CS_B
AAC_RD_B
AAC_WR_B
AAC_ASI1
AAC_RESET_B
AAC_CLKIN
AAC_LRCK2
IC101
UPD99914F1-BAC
N.C.2
TM9
D7
D10
DGND3
DVDD3
A7
A4
TM0
N.C.5
TM7
TM8
D8
D9
D13
A10
A6
A5
TM2
TM1
EVDD1
EGND2
TM5
D11
D14
A9
A8
A1
A3
A2
D5
D4
D6
D12
D15
TMPW2
A0
EGND15
RESET_B
EVDD4
BCLK2
D2
D3
DVDD1
DGND4
PO7
EGND16
INT_B
D0
ASI2
D1
DGND2
DVDD2
DVDD5
PO4
PO5
PO6
RD_B
ASO2
CS_B
EGND3
EGND6
EGND10
DVDD4
EVDD3
PO2
PO3
WR_B
TM6
ASO1
LRCLK1
EGND5
EGND9
EGND13
CLKIN
PO0
PO1
TM10
EGND1
LRCLK2
ASI1
N.C.3
EGND8
EGND12
EGND14
TM4
TM3
N.C.1
EVDD2
BCLK1
DGND1
EGND4
EGND7
EGND11
PLLVDD
PLLGND
N.C.4
TP102
TP101
V+1R2
V+1R2_AAC_PLL
F171
DTL1106-A
TP171
V+3D
V+CLK
R185 0
R184 NM
TP181
IC181
TC4SU69F
IC182
TC7SZU04FU
X101
ASS1172-A
32.768KHz
R183 10M
R181 10
R182 470k
R186 NM
V+3D
V+1R8C
TP306
TP304
TP305
TP308
IC301
LAN9211-ABZJ
FIFO_SEL
nRD
nWR
nCS
VDD_IO2
VDD_IO3
VDD_IO4
VDD_IO5
VDD_A18
AMDIX_EN
VDD_A333
EXRES1
VDD_A332
TPI+
TPI-
VDD_A331
TPO+
TPO-
IRQ
XTAL1/CLKIN
XTAL2
VDD_CORE1
VDD_CORE2
EEDIO/GPO3
EECS
EECLK/GPO4
PME
nRESET
X301
VSS1214-A
25MHz
R305 47k
R311 12k (F)
R312 NM
R304 47k
V+3A_LAN
F301
DTL1106-A
TP547
JA301
VKN2078-A
F321
F331
VTH1056-A
R321 NM
R322 NM
R331 NM
R332 NM
TP313
TP314
TP315
TP301
TP316
TP302
TP303
TX+
TX-
RX+
TCT
RCT
RX-
NC
GND
GNDS
TP309
C343 1000p/50
IRQ
XRESET
C345 NM
C344 NM
C336 (R336 0)
C337 (R337 0)
C338 (R338 0)
C339 (R339 0)
E

10.12 SERVICE DVUB ASSY

F SERVICE DVUB ASSY (YXX1001)


CN901
VKN1932- -TFB
TPBN 6
TPBP 5
GND 4
GND 3
TPAN 2
TPAP 1
D 5/5 CN5101
GND
R901
0
L901
***
R902
0
R903
0
L902
***
R904
0
JA901
VKN2028-A
4 TPBN
3 TPBP
2 TPAN
1 TPAP
C901
***
C902
***
C903
***
C904
***
GNDIS
CN902
VKN1936- -TFB
USBDM2 10
GND 9
USBDP2 8
GND 7
V+5USB 6
USBVFB 5
GND 4
USBDM1 3
GND 2
USBDP1 1
C905
1
C906
1
D 5/5 CN5201
GND
R905
33
L903
***
R906
33
JA902
VKB1226-A
VTL1169- -T
L904
1 +5V
2 D-
3 D+
4 GND
5
6
7
VTL1169- -T
L905
GND
GND
VA901
AVR-M1608C120MT2AB-T
VA902
AVR-M1608C120MT2AB-T
VA903
AVR-M1608C120MT2AB-T
JA903
VKB1227-A
VTL1169- -T
L907
R907
33
L906
***
R909
33
1 +5V
2 D-
3 D+
4 GND
5
6
7
VTL1169- -T
L908
GND
GND
R910
R913
R911
***
R912
0
C907
0.1
R908
0
0.1
C908
GND
GNDIA
GNDIS
VA904
AVR-M1608C120MT2AB-T
VA905
AVR-M1608C120MT2AB-T
VA906
AVR-M1608C120MT2AB-T

A

B

C

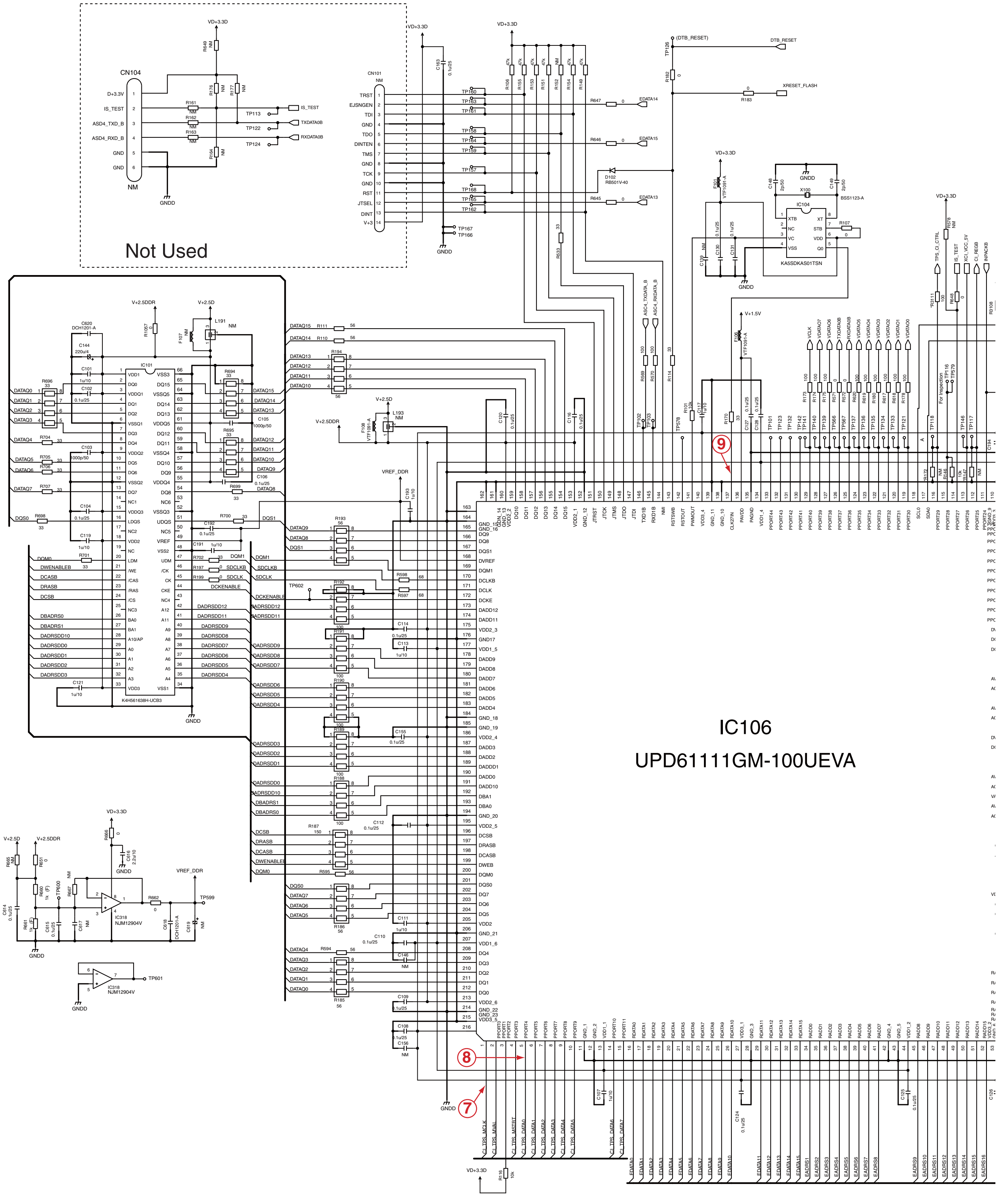
D

E

F

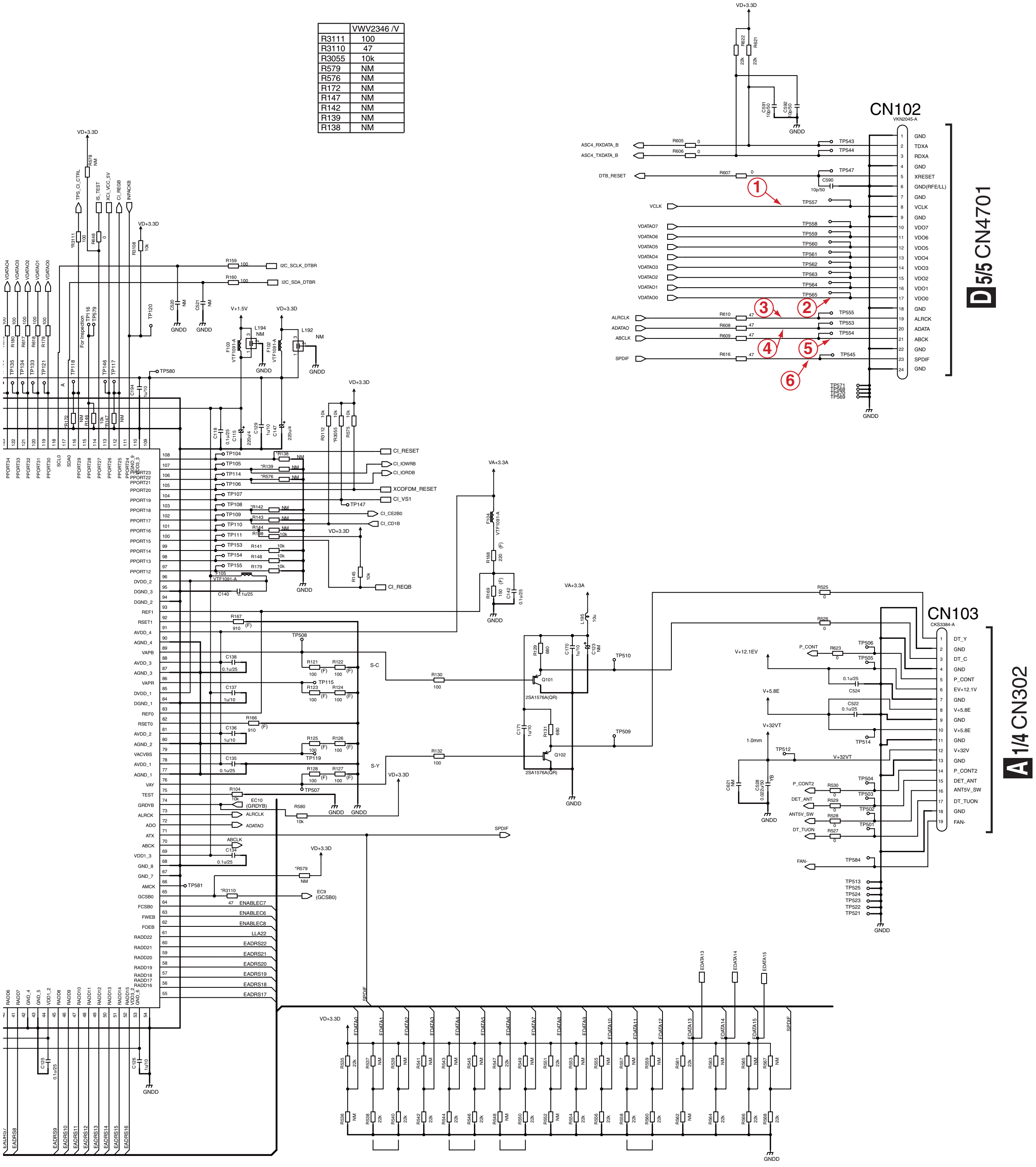
10.13 SERVICE DTBR ASSY (1/3)

G 1/3 SERVICE DTBR ASSY (1/3)
(VXX3319)



Not Used
CN104
D+3.3V
IS_TEST
ASD4_TXD_B
ASD4_RXD_B
GND
NM
GNDD
CN101
TRST
EJSNGEN
TDI
TDO
DINTEN
TMS
TCK
RST
JTSEL
DINT
V+3
VD+3.3D
(DTB_RESET)
DTB_RESET
XRESET_FLASH
EDATA14
EDATA15
EDATA13
D102
RB501V-40
IC104
KA5SDKAS01TSN
X100
BSS1123-A
VD+1.5V
V+2.5DDR
V+2.5D
IC101
K4H561638H-UCB3
L191
L193
VREF_DDR
IC106
UPD61111GM-100UEVA
IC318
NJM12904V
TP599
TP600
TP601
TP602
For Inspection
TPS_CI_CTRL
IS_TEST
XCI_VCC_5V
CI_REGB
INPACKB
7
8
9
GNDD

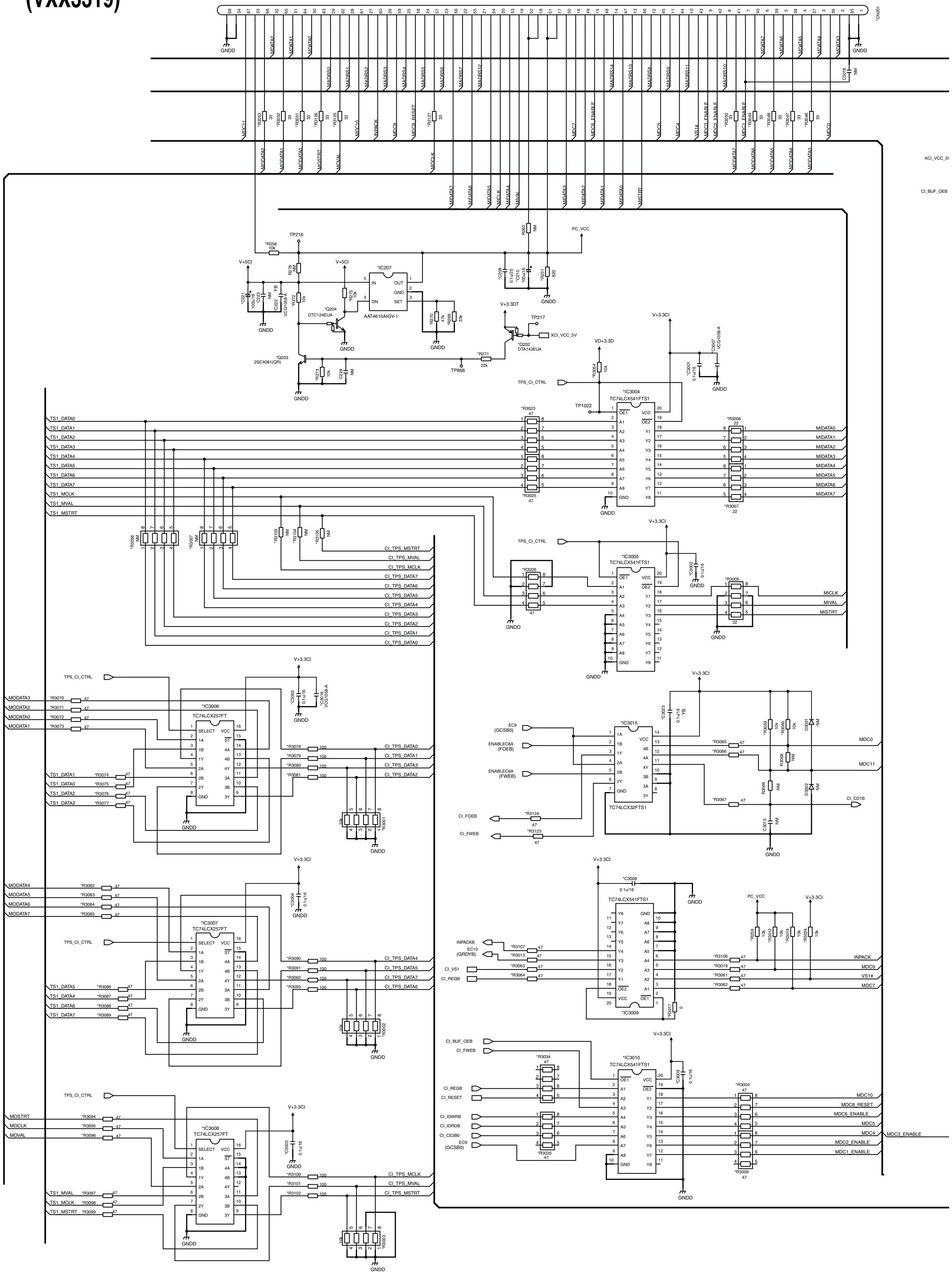
	VWV2346 /V
R3111	100
R3110	47
R3055	10k
R579	NM
R576	NM
R172	NM
R147	NM
R142	NM
R139	NM
R138	NM

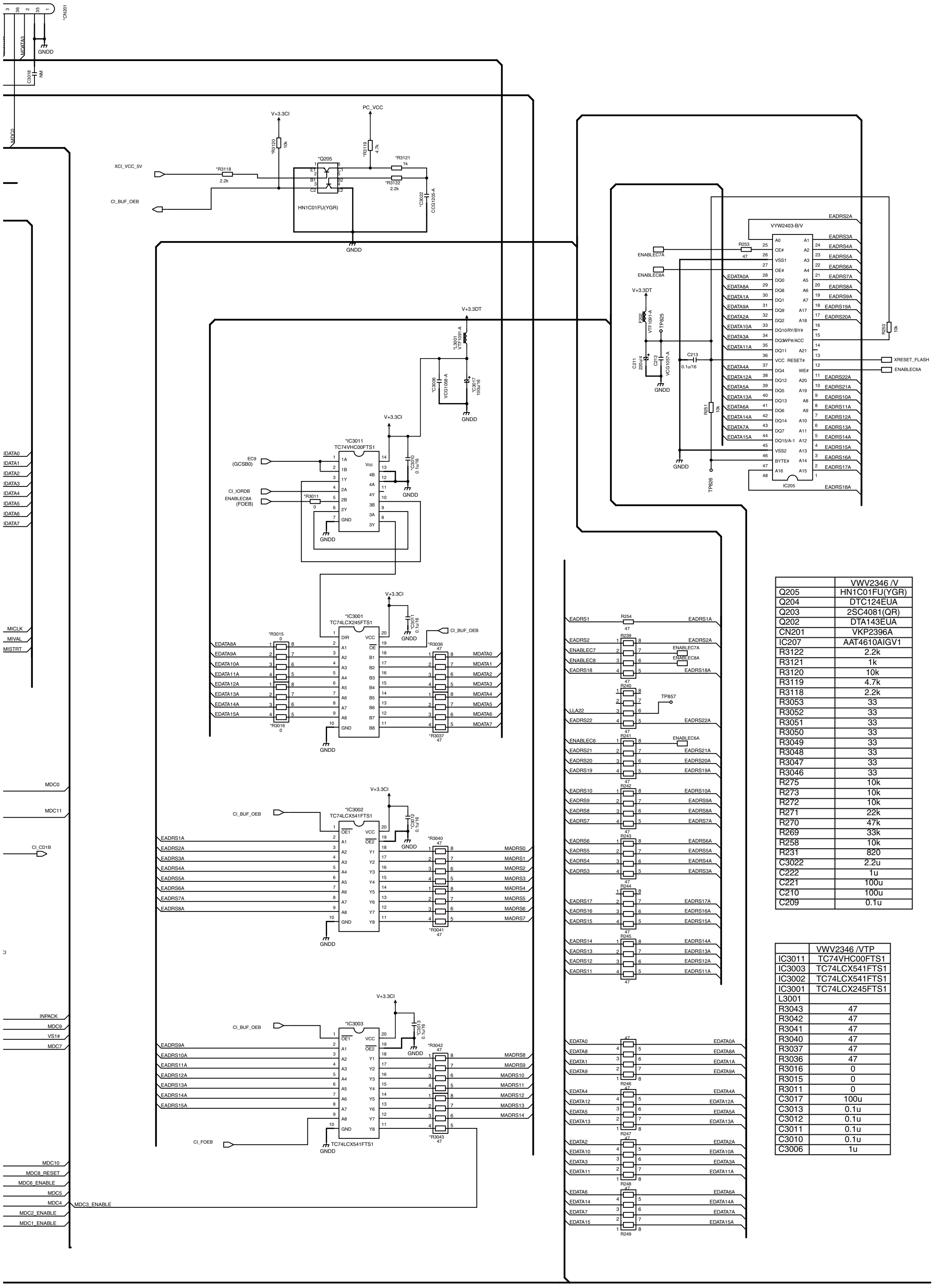


CN102
VKN2045-A
D 5/5 CN4701
GND
TDXA
RDXA
GND
XRESET
GND(RFE/LL)
GND
VCLK
GND
VDO7
VDO6
VDO5
VDO4
VDO3
VDO2
VDO1
VDO0
GND
ALRCK
ADATA
ABCK
GND
SPDIF
GND
ASC4_RXDATA_B
ASC4_TXDATA_B
DTB_RESET
VCLK
ALRCLK
ADATAO
ABCLK
SPDIF
VD+3.3D
GNDD
①
②
③
④
⑤
⑥
CN103
CKS3384-A
A 1/4 CN302
DT_Y
GND
DT_C
GND
P_CONT
EV+12.1V
GND
V+5.8E
GND
V+5.8E
GND
V+32V
GND
P_CONT2
DET_ANT
ANT5V_SW
DT_TUON
GND
FAN-
V+12.1EV
V+5.8E
V+32VT
VA+3.3A
Q101
2SA1576A(QR)
Q102
2SA1576A(QR)
S-C
S-Y
CI_RESET
CI_IOWRB
CI_IORDB
XCOFDM_RESET
CI_VS1
CI_CE2B0
CI_CD1B
CI_REQB
I2C_SCLK_DTBR
I2C_SDA_DTBR
V+1.5V
L194
L192
EC10 (GRDYB)
ALRCLK
ADATAO
ABCLK
EC9 (GCSB0)
SPDIF
ENABLEC7
ENABLEC6
ENABLEC8
LLA22
EADRS22
EADRS21
EADRS20
EADRS19
EADRS18
EADRS17
EDATA0
EDATA1
EDATA2
EDATA3
EDATA4
EDATA5
EDATA6
EDATA7
EDATA8
EDATA9
EDATA10
EDATA11
EDATA12
EDATA13
EDATA14
EDATA15
For Inspection

10.14 SERVICE DTBR ASSY (2/3)

G 2/3 SERVICE DTBR ASSY (2/3)
(VXX3319)


CN201
GNDD
MDATA2
MDATA1
MDATA0
MADRS0
MADRS1
MADRS2
MADRS3
MADRS4
MADRS5
MADRS6
MADRS7
MADRS12
MADRS14
MADRS13
MADRS8
MADRS9
MADRS11
MADRS10
MIDATA7
MIDATA6
MIDATA5
MIDATA4
MIDATA3
MDC11
MDC10
INPACK
MDC9
MDC8_RESET
MDC7
MDC6_ENABLE
MDC5
MDC4
VS1#
MDC3_ENABLE
MDC2_ENABLE
MDC1_ENABLE
MDC0
MODATA2
MODATA1
MODATA0
MOSTRT
MOVAL
MOCLK
MODATA7
MODATA6
MODATA5
MODATA4
MODATA3
MISTRT
MIVAL
MICLK
MIDATA0
MIDATA1
MIDATA2
XCI_VCC_5V
CI_BUF_OEB
TP216
*R258 10k
V+5CI
*C221 100u/16
C223 NM
C222 NM VCG1058-A
*R276 NM
*R272 10k
*R275 10k
*Q204 DTC124EUA
*IC207
IN OUT GND ON SET
AAT4610AIGV-1
*R270 47k
*R269 33k
*Q203 2SC4081(QR)
*R273 10k
C224 NM
TP868
*R271 22k
V+3.3DT
TP217
*Q202 DTA143EUA
R260 NM
PC_VCC
*C209 0.1u/25
*C210 100u/16
*R231 820
VD+3.3D
*R3054 10k
V+3.3CI
*C3007 VCG1058-A
*C3001 0.1u/16
TPS_CI_CTRL
TP1022
*IC3004
TC74LCX541FTS1
OE1 VCC OE2 A1 A2 A3 A4 A5 A6 A7 A8 GND Y1 Y2 Y3 Y4 Y5 Y6 Y7 Y8
*R3023 47
*R3025 47
*R3006 22
*R3007 22
TS1_DATA0
TS1_DATA1
TS1_DATA2
TS1_DATA3
TS1_DATA4
TS1_DATA5
TS1_DATA6
TS1_DATA7
TS1_MCLK
TS1_MVAL
TS1_MSTRT
*R3056 NM
*R3057 NM
*R3103 NM
*R3104 NM
*R3105 NM
CI_TPS_MSTRT
CI_TPS_MVAL
CI_TPS_MCLK
CI_TPS_DATA7
CI_TPS_DATA6
CI_TPS_DATA5
CI_TPS_DATA4
CI_TPS_DATA3
CI_TPS_DATA2
CI_TPS_DATA1
CI_TPS_DATA0
*IC3005
TC74LCX541FTS1
*R3026 47
*C3002 0.1u/16
*R3005 22
*IC3006
TC74LCX257FT
SELECT VCC 1A 1B 1Y 2A 2B 2Y GND ST 4A 4B 4Y 3A 3B 3Y
*C3003 0.1u/16
*C3016 VCG1058-A
*R3070 47
*R3071 47
*R3072 47
*R3073 47
*R3074 47
*R3075 47
*R3076 47
*R3077 47
*R3078 100
*R3079 100
*R3080 100
*R3081 100
*R3001 10k
*IC3015
TC74LCX32FTS1
EC9 (GCSB0)
ENABLEC8A (FOEB)
ENABLEC6A (FWEB)
*C3023 0.1u/16
*R3059 10k
*R3060 10k
D3001 NM
*R3065 47
*R3066 47
R3068 NM
R3069 NM
D3002 NM
*R3067 47
CI_CD1B
C3015 NM
CI_FOEB
CI_FWEB
*R3124 47
*R3123 47
*IC3007
TC74LCX257FT
*C3004 0.1u/16
*R3082 47
*R3083 47
*R3084 47
*R3085 47
*R3086 47
*R3087 47
*R3088 47
*R3089 47
*R3090 100
*R3091 100
*R3092 100
*R3093 100
*R3002 10k
*C3008 0.1u/16
*IC3009
TC74LCX541FTS1
INPACKB
EC10 (GRDYB)
CI_VS1
CI_REQB
*R3107 47
*R3013 47
*R3063 47
*R3064 47
*R3017 0
PC_VCC
*R3259 10k
*R3012 10k
*R3014 10k
*R3024 10k
*R3106 47
*R3019 47
*R3061 47
*R3062 47
CI_BUF_OEB
CI_FWEB
*R3034 47
*IC3010
TC74LCX541FTS1
*C3009 0.1u/16
CI_REGB
CI_RESET
CI_IOWRB
CI_IORDB
CI_CE2B0
EC9 (GCSB0)
*R3035 47
*R3004 47
*R3009 47
*IC3008
TC74LCX257FT
*C3005 0.1u/16
*R3094 47
*R3095 47
*R3096 47
*R3097 47
*R3098 47
*R3099 47
*R3100 100
*R3101 100
*R3102 100
CI_TPS_MCLK
CI_TPS_MVAL
CI_TPS_MSTRT
*R3003 10k
V+3.3CI
GNDD


CN201
GNDD
MDATA3
MDC0
XCI_VCC_5V
CI_BUF_OEB
*R3118 2.2k
*R3120 10k
*R3119 4.7k
*R3121 1k
*R3122 2.2k
*Q205
HN1C01FU(YGR)
*C3022 CCG1205-A
V+3.3CI
PC_VCC
V+3.3DT
*L3001 VTF1091-A
*C3006 VCG1056-A
*C3017 100u/16
*IC3011 TC74VHC00FTS1
EC9 (GCSB0)
CI_IORDB
ENABLEC8A (FOEB)
*R3011 0
*C3010 0.1u/16
*IC3001 TC74LCX245FTS1
*R3015 0
*R3016 0
*R3036 47
*R3037 47
*C3011 0.1u/16
EDATA8A EDATA9A EDATA10A EDATA11A EDATA12A EDATA13A EDATA14A EDATA15A
MDATA0 MDATA1 MDATA2 MDATA3 MDATA4 MDATA5 MDATA6 MDATA7
*IC3002 TC74LCX541FTS1
*R3040 47
*R3041 47
*C3012 0.1u/16
EADRS1A EADRS2A EADRS3A EADRS4A EADRS5A EADRS6A EADRS7A EADRS8A
MADRS0 MADRS1 MADRS2 MADRS3 MADRS4 MADRS5 MADRS6 MADRS7
*IC3003 TC74LCX541FTS1
*R3042 47
*R3043 47
*C3013 0.1u/16
EADRS9A EADRS10A EADRS11A EADRS12A EADRS13A EADRS14A EADRS15A
MADRS8 MADRS9 MADRS10 MADRS11 MADRS12 MADRS13 MADRS14
CI_FOEB
MDC10 MDC8_RESET MDC6_ENABLE MDC5 MDC4 MDC3_ENABLE MDC2_ENABLE MDC1_ENABLE
INPACK MDC9 VS1# MDC7
MICLK MIVAL MISTRT
MDC11 CI_CD1B
VYW2403-B/V
IC205
R253 47
ENABLEC7A
ENABLEC8A
C211 220u/4
C212 VCG1057-A
C213 0.1u/16
R250 10k
R251 10k
TP825 TP826
XRESET_FLASH
ENABLEC6A
R254 R239 R240 R241 R242 R243 R244 R245 R246 R247 R248 R249
TP857
LLA22
EADRS22A EADRS21A EADRS20A EADRS19A EADRS18A EADRS17A EADRS16A
EDATA0 EDATA8 EDATA1 EDATA9 EDATA4 EDATA12 EDATA5 EDATA13 EDATA2 EDATA10 EDATA3 EDATA11 EDATA6 EDATA14 EDATA7 EDATA15

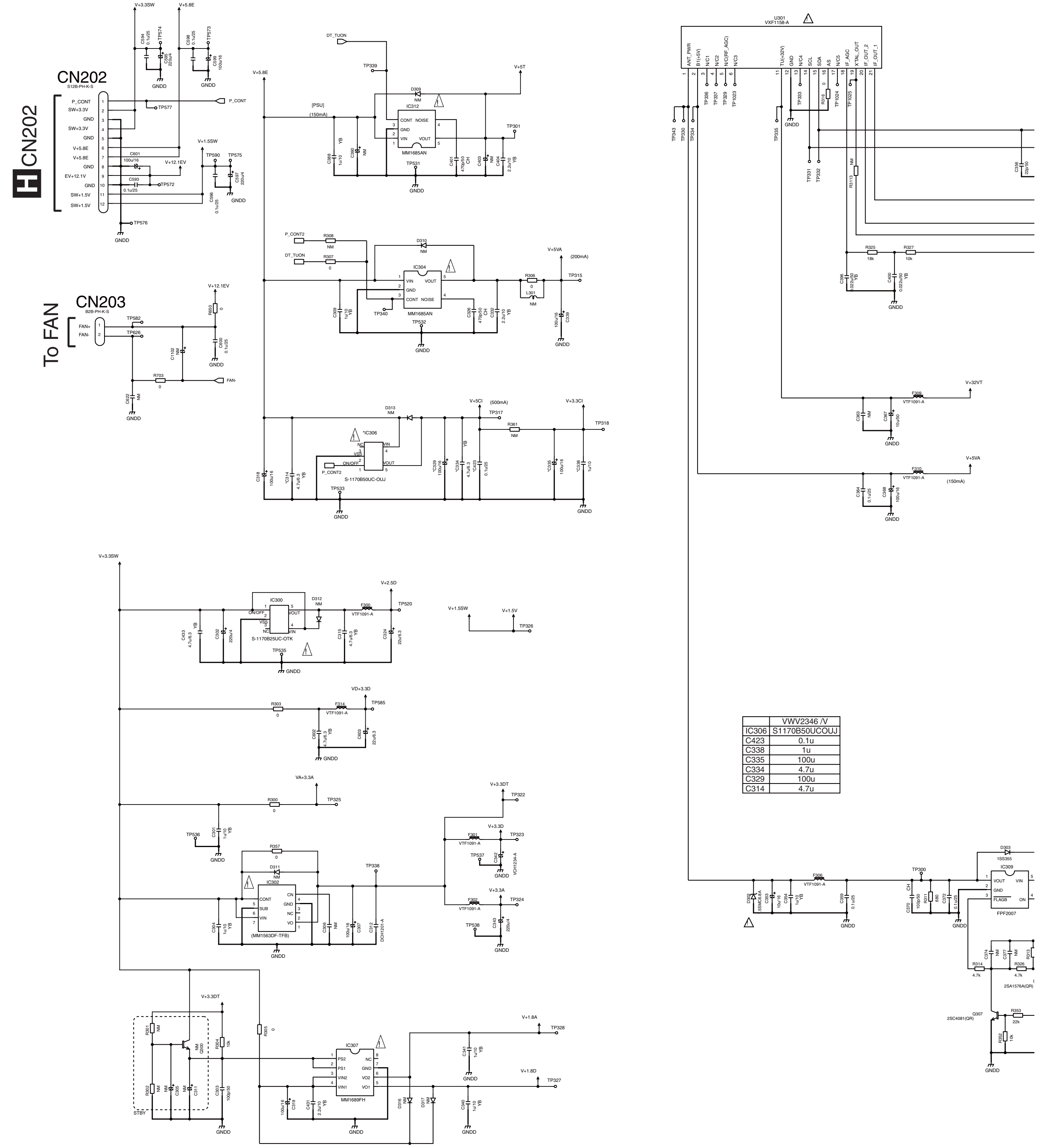
	VWV2346 /V
Q205	HN1C01FU(YGR)
Q204	DTC124EUA
Q203	2SC4081(QR)
Q202	DTA143EUA
CN201	VKP2396A
IC207	AAT4610AIGV1
R3122	2.2k
R3121	1k
R3120	10k
R3119	4.7k
R3118	2.2k
R3053	33
R3052	33
R3051	33
R3050	33
R3049	33
R3048	33
R3047	33
R3046	33
R275	10k
R273	10k
R272	10k
R271	22k
R270	47k
R269	33k
R258	10k
R231	820
C3022	2.2u
C222	1u
C221	100u
C210	100u
C209	0.1u

	VWV2346 /VTP
IC3011	TC74VHC00FTS1
IC3003	TC74LCX541FTS1
IC3002	TC74LCX541FTS1
IC3001	TC74LCX245FTS1
L3001	
R3043	47
R3042	47
R3041	47
R3040	47
R3037	47
R3036	47
R3016	0
R3015	0
R3011	0
C3017	100u
C3013	0.1u
C3012	0.1u
C3011	0.1u
C3010	0.1u
C3006	1u

	VWV2346 /V
IC3015	TC74LCX32FTS1
IC3010	TC74LCX541FTS1
IC3009	TC74LCX541FTS1
IC3008	TC74LCX257FT
IC3007	TC74LCX257FT
IC3006	TC74LCX257FT
IC3005	TC74LCX541FTS1
IC3004	TC74LCX541FTS1
R3124	47
R3123	47
R3107	47
R3106	47
R3105	NM
R3104	NM
R3103	NM
R3102	100
R3101	100
R3100	100
R3099	47
R3098	47
R3097	47
R3096	47
R3095	47
R3094	47
R3093	100
R3092	100
R3091	100
R3090	100
R3089	47
R3088	47
R3087	47
R3086	47
R3085	47
R3084	47
R3083	47
R3082	47
R3081	100
R3080	100
R3079	100
R3078	100
R3077	47
R3076	47
R3075	47
R3074	47
R3073	47
R3072	47
R3071	47
R3070	47
R3067	47
R3066	47
R3065	47
R3064	47
R3063	47
R3062	47
R3061	47
R3060	10k
R3059	10k
R3057	NM
R3056	NM
R3054	10k
R3035	47
R3034	47
R3026	47
R3025	47
R3024	10k
R3023	47
R3019	47
R3017	0
R3014	10k
R3013	47
R3012	10k
R3009	47
R3007	22
R3006	22
R3005	22
R3004	47
R3003	10k
R3002	10k
R3001	10k
R259	10k
C3023	0.1u
C3016	1u
C3009	0.1u
C3008	0.1u
C3007	1u
C3005	0.1u
C3004	0.1u
C3003	0.1u
C3002	0.1u
C3001	0.1u

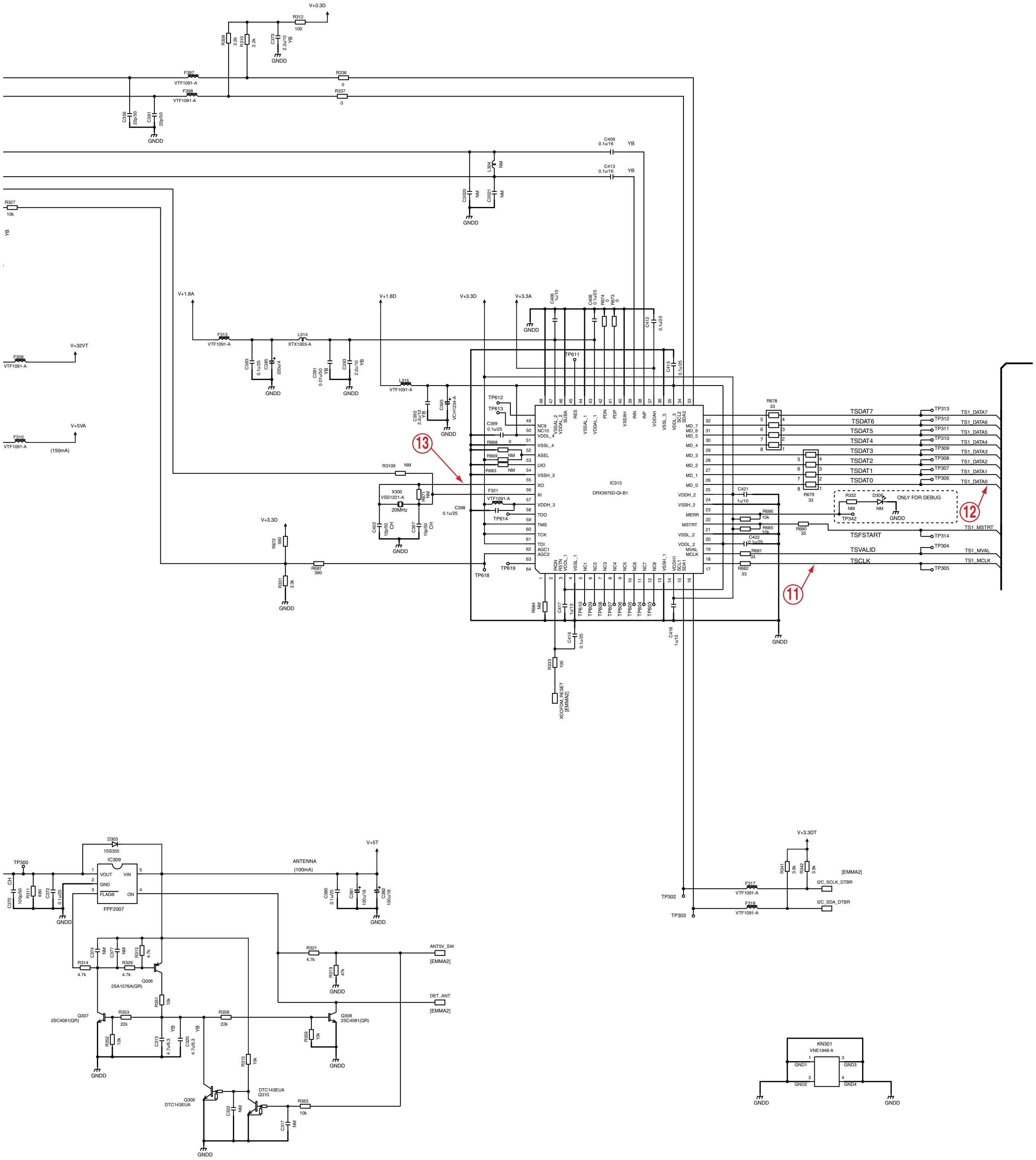
10.15 SERVICE DTBR ASSY (3/3)

G 3/3 SERVICE DTBR ASSY (3/3) (VXX3319)


H CN202
CN202
S12B-PH-K-S
P_CONT
SW+3.3V
GND
SW+3.3V
GND
V+5.8E
V+5.8E
GND
EV+12.1V
GND
SW+1.5V
SW+1.5V
V+3.3SW
V+5.8E
C594 0.1u/25
TP574
C595 220u/4
C598 0.1u/25
TP573
C599 100u/16
GNDD
TP577
P_CONT
C601 100u/16
V+12.1EV
V+1.5SW
TP590
TP575
TP572
C593 0.1u/25
C596 0.1u/25
C597 220u/4
TP576
To FAN
CN203
B2B-PH-K-S
FAN+
FAN-
TP582
TP626
V+12.1EV
R650 0
C600 0.1u/25
C1102 NM
R703 0
FAN-
C622 NM
DT_TUON
TP339
V+5T
D309 NM
IC312
[PSU]
(150mA)
CONT NOISE
GND
VIN VOUT
MM1685AN
C388 1u/10 YB
C390 NM
TP531
C401 470p/50 CH
C403 NM
C404 2.2u/10 YB
TP301
P_CONT2
R308 NM
DT_TUON
R307 0
D310 NM
IC304
V+5VA
(200mA)
R306 0
L301 NM
TP315
C309 1u/10 YB
TP340
MM1685AN
TP532
C305 470p/50 CH
C332 2.2u/10 YB
C339 100u/16
D313 NM
V+5CI
(500mA)
TP317
V+3.3CI
TP318
R361 NM
*IC306
NC
VSS
ON/OFF
VIN
VOUT
P_CONT2
S-1170B50UC-OUJ
TP533
C318 100u/16
*C314 4.7u/6.3 YB
*C329 100u/16
*C334 4.7u/6.3 YB
*C423 0.1u/25
*C335 100u/16
*C338 1u/10
U301
VXF1158-A
ANT_PWR
B1(+5V)
N/C1
N/C2
N/C(RF_AGC)
N/C3
TU(+32V)
GND
N/C4
SCL
SDA
AS
N/C5
IF_AGC
XTAL_OUT
IF_OUT_2
IF_OUT_1
TP336 TP337 TP329 TP1023
TP343 TP330 TP334
TP335
TP333
R316 0
TP1024
TP1025
TP331 TP332
R3113 NM
C356 22p/50
R325 18k
R327 10k
C396 0.022u/50 YB
C400 0.022u/50 YB
V+32VT
F309 VTF1091-A
C383 NM
C387 10u/50
V+5VA
F310 VTF1091-A
(150mA)
C384 0.1u/25
C388 100u/16
V+3.3SW
IC300
ON/OFF
VSS
NC
VOUT
VIN
S-1170B25UC-OTK
D312 NM
F300 VTF1091-A
V+2.5D
TP520
C433 4.7u/6.3 YB
C302 220u/4
TP535
C315 4.7u/6.3 YB
C324 22u/6.3
V+1.5SW
V+1.5V
TP326
R303 0
F314 VTF1091-A
VD+3.3D
TP585
C602 4.7u/6.3 YB
C603 22u/6.3
VA+3.3A
R300 0
TP325
TP536
C301 1u/10 YB
R357 0
D311 NM
IC302
CONT
SUB
VIN
CN
GND
NC
VO
(MM1563DF-TFB)
TP338
C304 1u/10 YB
C306 NM
C307 100u/16
C312 DCH1201-A
V+3.3DT
TP322
V+3.3D
F301 VTF1091-A
TP323
TP537
C342 VCH1234-A
V+3.3A
F302 VTF1091-A
TP324
TP538
C343 220u/4
V+3.3DT
R301 NM
Q300 NM
R304 10k
R305 0
R302 NM
C305 NM
C311 NM
C303 100p/50
STBY
IC307
PS2
PS1
VIN2
VIN1
NC
GND
VO2
VO1
MM1689FH
C319 100u/16
C431 2.2u/10 YB
D316 NM
D317 NM
V+1.8A
TP328
C341 1u/10 YB
V+1.8D
TP327
C340 1u/10 YB
D303 1SS355
IC309
VOUT
VIN
GND
FLAGB
ON
FPF2007
TP300
F306 VTF1091-A
D302 SSMCE.6A
C353 10u/16
C354 1u/10 YB
C359 0.1u/25
C370 100p/50 CH
R311 680
C372 0.1u/25
C374 NM
C377 NM
R313
R314 4.7k
R326 4.7k
2SA1576A(QR)
Q307 2SC4081(QR)
R353 22k
R352 10k

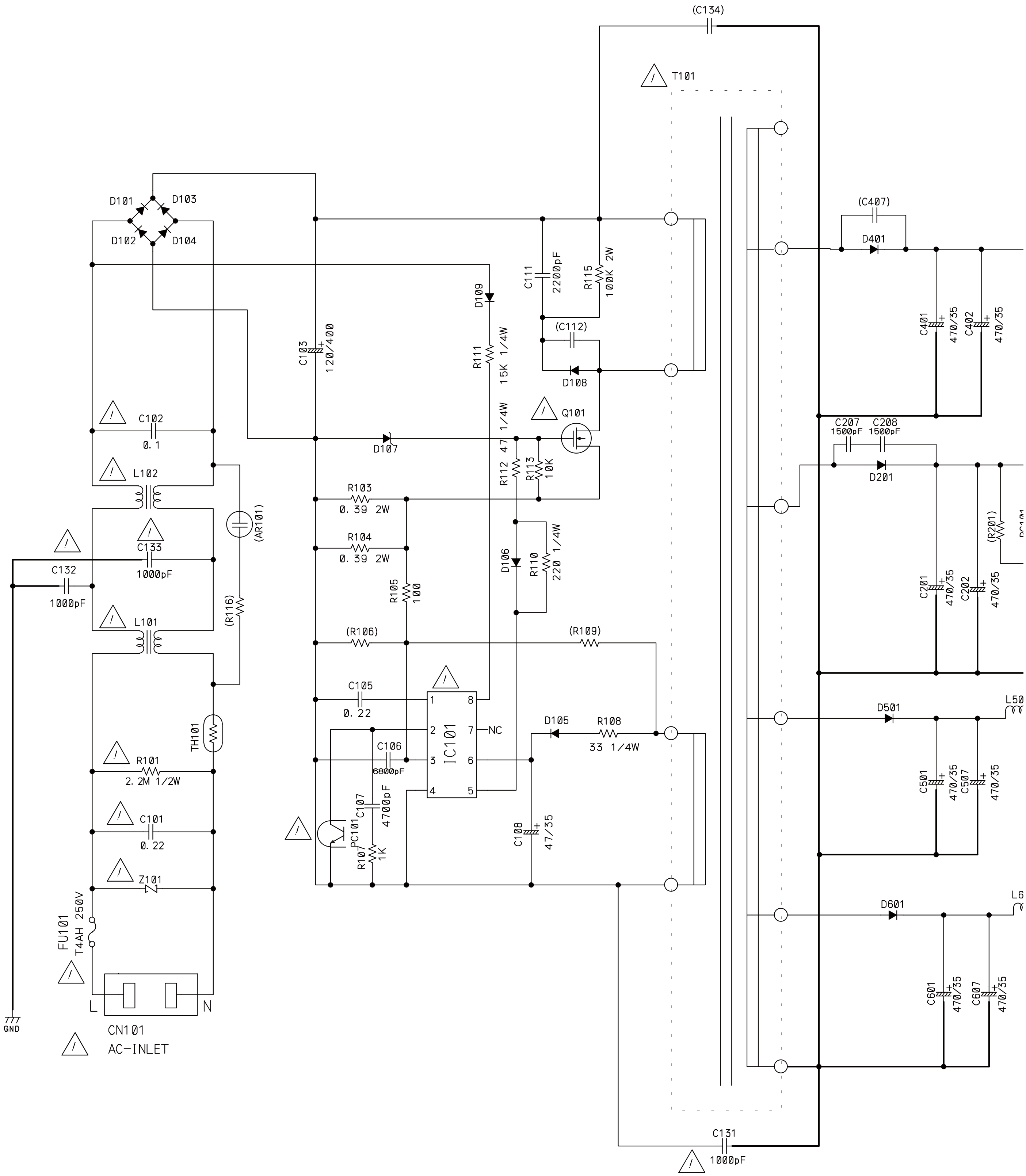
	VWV2346 /V
IC306	S1170B50UCOUJ
C423	0.1u
C338	1u
C335	100u
C334	4.7u
C329	100u
C314	4.7u

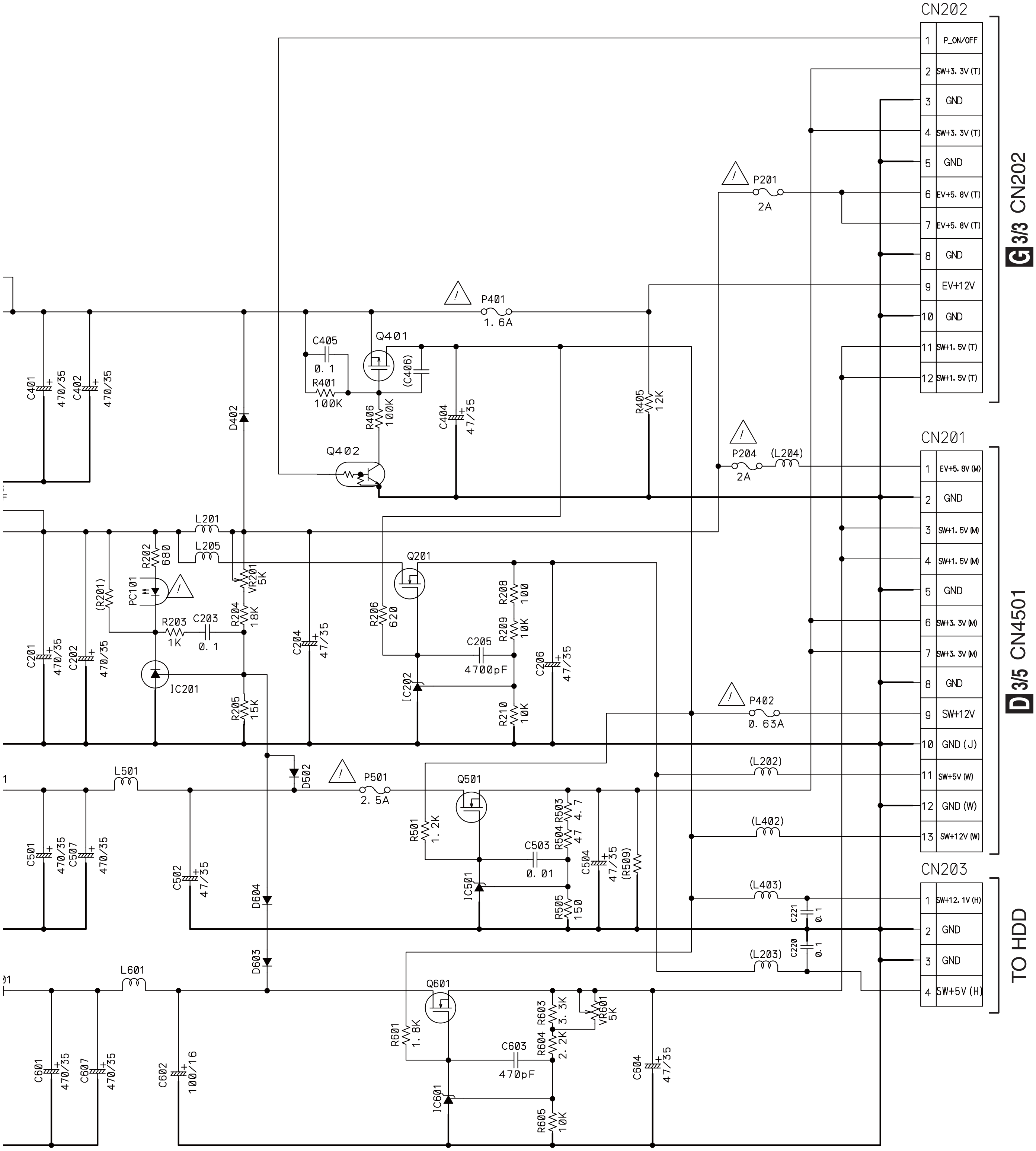
G 3/3


V+3.3D
R312 100
R309 2.2k
R310 2.2k
C373 2.2u/10 YB
GNDD
F397 VTF1091-A
F398 VTF1091-A
R336 0
R337 0
C356 22p/50
C361 22p/50
C409 0.1u/16 YB
C413 0.1u/16 YB
L304 NM
C3020 NM
C3021 NM
R327 10k
YB
V+1.8A
V+1.8D
V+3.3D
V+3.3A
C406 1u/10
C408 0.1u/25
R674 0
R673 0
C412 0.1u/25
F313 VTF1091-A
L314 XTX1003-A
C383 0.1u/25
C385 220u/4
C391 0.01u/50 YB
C393 2.2u/10 YB
TP611
C415 0.1u/25
V+32VT
F309 VTF1091-A
V+5VA
F310 VTF1091-A
(150mA)
L315 VTF1091-A
C392 2.2u/10 YB
C395 VCH1234-A
TP612
TP613
C399 0.1u/25
R668 0
R669 NM
R683 NM
R3109 NM
X300 VSS1221-A 20MHz
R671 NM
F321 VTF1091-A
C398 0.1u/25
TP614
C402 12p/50 CH
C397 12p/50 CH
GNDD
V+3.3D
R672 560
R331 3.3k
R687 390
TP618
TP619
IC313
DRX3975D-QI-B1
NC9
NC10
VDDL_4
VSSL_4
ASEL
UIO
VSSH_3
XO
XI
VDDH_3
TDO
TMS
TCK
TDI
AGC1
AGC2
MD_7
MD_6
MD_5
MD_4
MD_3
MD_2
MD_1
MD_0
VDDH_2
VSSH_2
MERR
MSTRT
VSSL_2
VDDL_2
MVAL
MCLK
R678 33
R679 33
C421 1u/10
R686 10k
R685 10k
C422 0.1u/25
R680 33
R681 33
R682 33
R332 NM
D300 NM
ONLY FOR DEBUG
TP342
GNDD
TSDAT7
TSDAT6
TSDAT5
TSDAT4
TSDAT3
TSDAT2
TSDAT1
TSDAT0
TSFSTART
TSVALID
TSCLK
TP313
TP312
TP311
TP310
TP309
TP308
TP307
TP306
TP314
TP304
TP305
TS1_DATA7
TS1_DATA6
TS1_DATA5
TS1_DATA4
TS1_DATA3
TS1_DATA2
TS1_DATA1
TS1_DATA0
TS1_MSTRT
TS1_MVAL
TS1_MCLK
⑪
⑫
⑬
R684 NM
C417 1u/10
C416 0.1u/25
C418 1u/10
R333 100
XCOFDM_RESET [EMMA2]
GNDD
V+3.3DT
R341 3.9k
R342 3.9k
[EMMA2]
F317 VTF1091-A
F318 VTF1091-A
I2C_SCLK_DTBR
I2C_SDA_DTBR
TP302
TP303
D303 1SS355
IC309
FPF2007
VOUT
VIN
GND
FLAGB
ON
TP300
C370 100p/50 CH
R311 680
C372 0.1u/25
ANTENNA (100mA)
V+5T
C380 0.1u/25
C381 100u/16
C382 100u/16
C374 NM
C377 NM
R313 4.7k
R314 4.7k
R326 4.7k
Q306 2SA1576A(QR)
R321 4.7k
R319 47k
ANT5V_SW [EMMA2]
DET_ANT [EMMA2]
R351 10k
Q307 2SC4081(QR)
R353 22k
R352 10k
C313 4.7u/6.3 YB
C320 4.7u/6.3 YB
R358 22k
Q308 2SC4081(QR)
R359 10k
R315 10k
Q309 DTC143EUA
DTC143EUA Q310
C322 NM
R363 10k
C317 NM
KN301
VNE1948-A
GND1
GND2
GND3
GND4

10.16 POWER SUPPLY ASSY

H POWER SUPPLY ASSY (VWR1405)


(C134)
T101
D101
D103
D102
D104
C111
2200pF
R115
100K 2W
D109
(C112)
C103
120/400
R111
15K 1/4W
D108
Q101
C102
0.1
L102
D107
R112 47 1/4W
R113
10K
R103
0.39 2W
(AR101)
C133
1000pF
C132
1000pF
R104
0.39 2W
D106
R110
220 1/4W
R105
100
(R116)
L101
(R106)
(R109)
C105
0.22
IC101
1
2
3
4
8
7
6
5
NC
D105
R108
33 1/4W
TH101
C106
6800pF
R101
2.2M 1/2W
C101
0.22
PC101
C107
4700pF
R107
1K
C108
47/35
Z101
FU101
T4AH 250V
L
N
CN101
AC-INLET
GND
C131
1000pF
(C407)
D401
C401
470/35
C402
470/35
C207
1500pF
C208
1500pF
D201
(R201)
C201
470/35
C202
470/35
D501
L50
C501
470/35
C507
470/35
D601
L6
C601
470/35
C607
470/35


CN202
1 P_ON/OFF
2 SW+3.3V (T)
3 GND
4 SW+3.3V (T)
5 GND
6 EV+5.8V (T)
7 EV+5.8V (T)
8 GND
9 EV+12V
10 GND
11 SW+1.5V (T)
12 SW+1.5V (T)
G 3/3 CN202
CN201
1 EV+5.8V (M)
2 GND
3 SW+1.5V (M)
4 SW+1.5V (M)
5 GND
6 SW+3.3V (M)
7 SW+3.3V (M)
8 GND
9 SW+12V
10 GND (J)
11 SW+5V (W)
12 GND (W)
13 SW+12V (W)
D 3/5 CN4501
CN203
1 SW+12.1V (H)
2 GND
3 GND
4 SW+5V (H)
TO HDD
P201 2A
P401 1.6A
P204 2A
(L204)
P402 0.63A
P501 2.5A
(L202)
(L402)
(L403)
(L203)
C221 0.1
C220 0.1
C401 470/35
C402 470/35
C405 0.1
R401 100K
Q401
(C406)
R406 100K
C404 47/35
Q402
R405 12K
D402
L201
L205
R202 680
PC101
(R201)
VR201 5K
R204 18K
R203 1K
C203 0.1
IC201
R205 15K
C201 470/35
C202 470/35
C204 47/35
Q201
R206 620
R208 100
R209 10K
C205 4700pF
IC202
R210 10K
C206 47/35
L501
D502
Q501
R501 1.2K
R503 4.7
R504 47
C503 0.01
IC501
R505 150
C504 47/35
(R509)
C501 470/35
C507 470/35
C502 47/35
D604
D603
L601
Q601
R601 1.8K
R603 3.3K
VR601 5K
R604 2.2K
C603 470pF
IC601
R605 10K
C604 47/35
C601 470/35
C607 470/35
C602 100/16

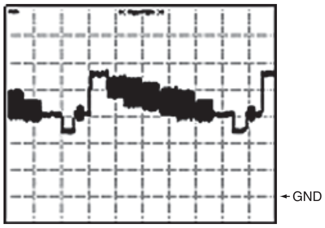
Unit	Resistor	Ω/W (under 1/4W for no direction W)
	Capacitor	µF/V (under 50V for no direction V)

10.17 WAVEFORMS

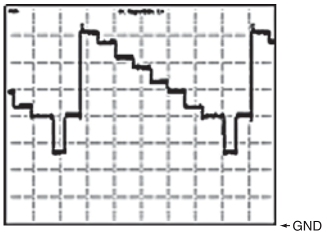
Note : The encircled numbers denote measuring point in the schematic diagram.

A SERVICE TUSB ASSY

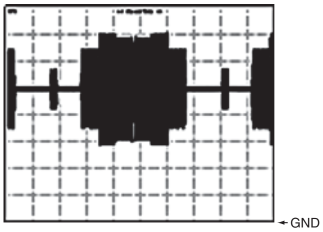
① **IC401-pin18 (TU-VIN)**
(Function : Tuner 9ch)
V:500mV/div. H:10μsec/div.



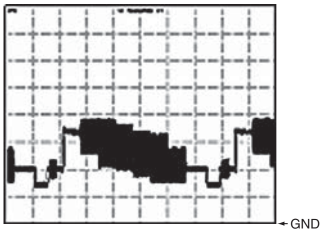
② **C486+side (Y2OUT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



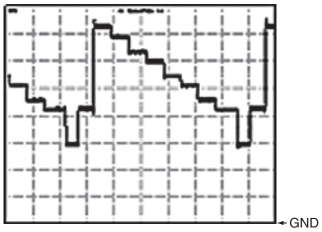
③ **IC401-pin34 (C2OUT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



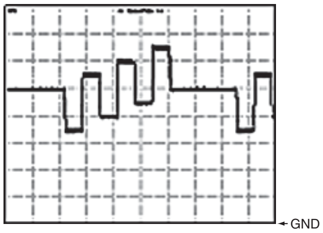
④ **C490+side (V1OUT)**
(Function : DVD play)
V:1V/div. H:10μsec/div.



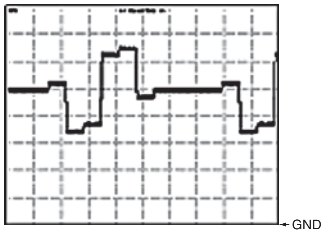
⑤ **C487+side (YOUT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



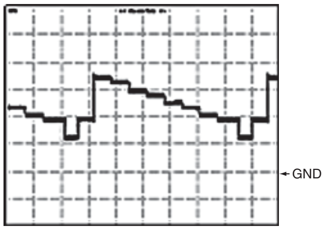
⑥ **C488+side (CbOUT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



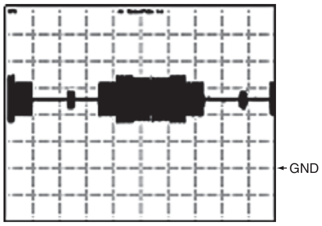
⑦ **C489+side (CrOUT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



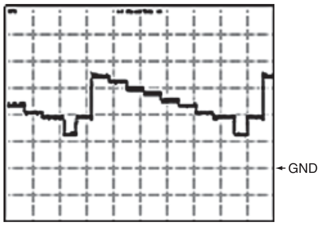
⑧ **CN101-pin8 (Y_OUT MtoT)**
(Function : Tuner 9ch)
V:500mV/div. H:10μsec/div.



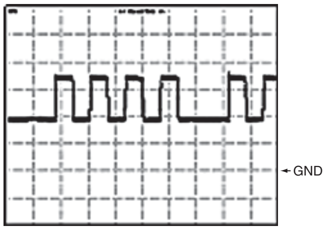
⑨ **CN101-pin10 (C_OUT MtoT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



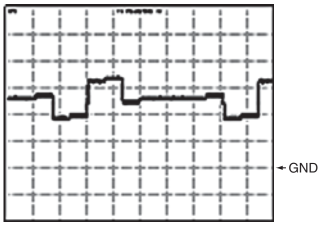
⑩ **CN101-pin2 (Yp_OUT MtoT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



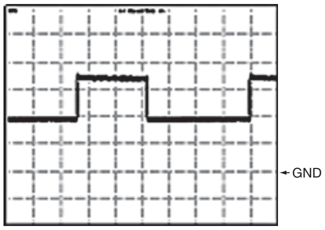
⑪ **CN101-pin6 (Cb_OUT MtoT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



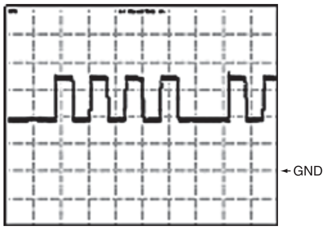
⑫ **CN101-pin4 (Cr_OUT MtoT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



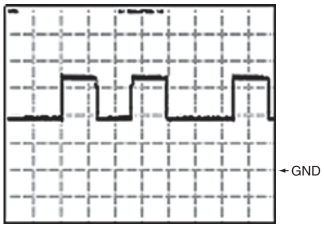
⑬ **CN101-pin2 (Y/G_OUT MtoT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



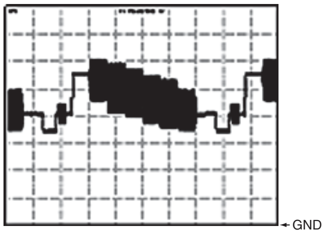
⑭ **CN101-pin6 (Cb/B_OUT MtoT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



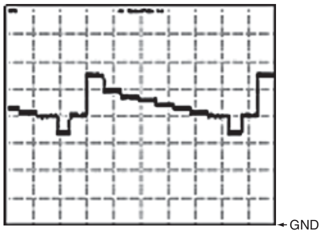
⑮ **CN101-pin4 (Cr/R_OUT MtoT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



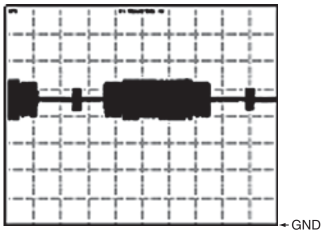
⑯ **IC401-pin14 (2VIN)**
(Function : LINE2 IN)
V:500mV/div. H:10μsec/div.



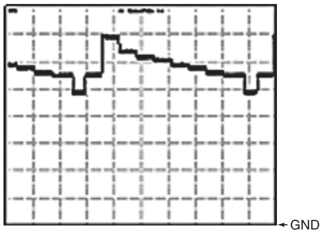
⑰ **IC401-pin7 (Y2IN)**
(Function : LINE2 IN)
V:500mV/div. H:10μsec/div.



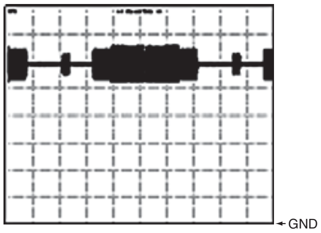
⑱ **IC401-pin9 (C2IN)**
(Function : LINE2 IN)
V:500mV/div. H:10μsec/div.



⑲ **CN101-pin12 (Y_IN TtoM)**
(Function : LINE2 IN)
V:500mV/div. H:10μsec/div.



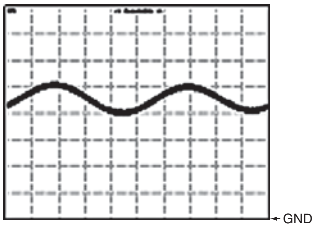
⑳ **CN101-pin14 (C_IN TtoM)**
(Function : LINE2 IN)
V:500mV/div. H:10μsec/div.



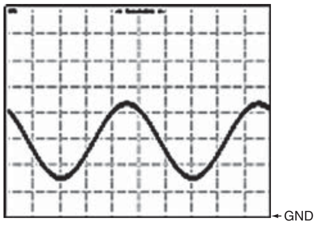
A SERVICE TUSB ASSY

Measurement Condition :

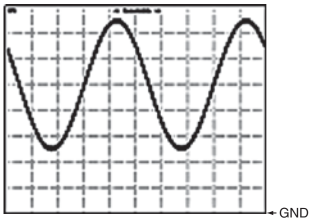
㉑ **IC401-pin87 (TU-LIN)**
(Function : Tuner 9ch)
V:500mV/div. H:10μsec/div.



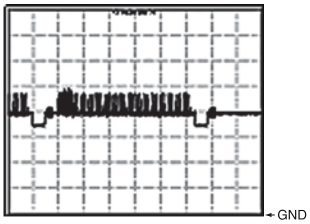
㉒ **C491+side (L_OUT)**
Function : DVD play)
V:500mV/div. H:10μsec/div.



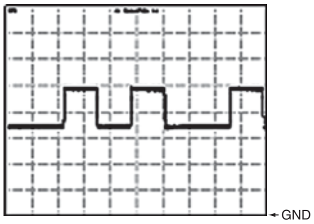
㉓ **CN101-pin26 (L_IN)**
(Function : LINE2 IN)
V:500mV/div. H:10μsec/div.



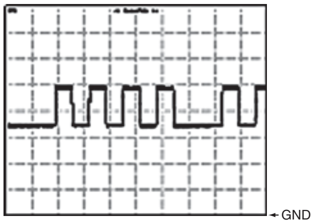
㉔ **IC101-pin81 (TEXTV)**
(Function : RF IN)
V:1V/div. H:10μsec/div.



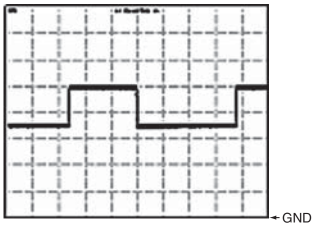
㉕ **JA501-pin15 (R/C IN)**
(Function : LINE1 IN)
V:500mV/div. H:10μsec/div.



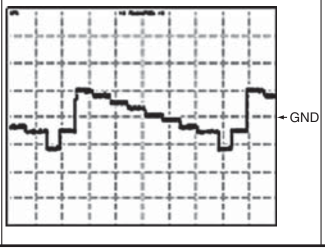
㉖ **JA501-pin7 (BIN)**
(Function : LINE1 IN)
V:500mV/div. H:10μsec/div.



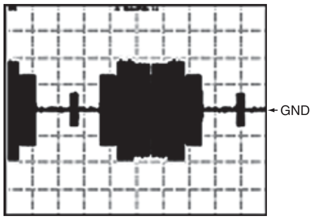
㉗ **JA501-pin11 (G IN)**
(Function : LINE1 IN)
V:500mV/div. H:10μsec/div.



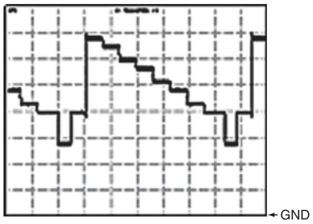
㉘ **JA501-pin20 (AV2_V/Y IN))**
(Function : LINE1 IN)
V:1V/div. H:10μsec/div.



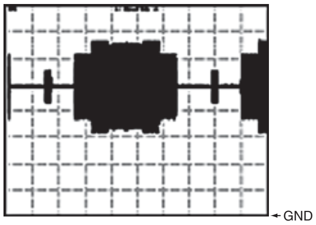
㉙ **JA501-pin15 (R/C IN)**
(Function : LINE1 IN)
V:500mV/div. H:10μsec/div.



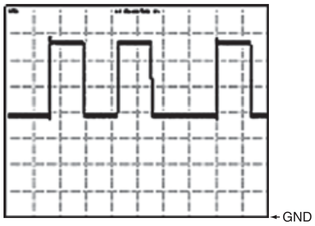
㉚ **C532+side (AV1_V/Y_OUT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



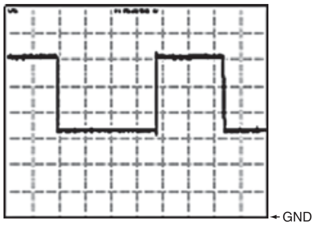
㉛ **C531+side (AV1_R/C_OUT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



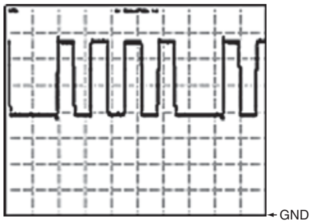
㉜ **C531+side (AV1_R/C_OUT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



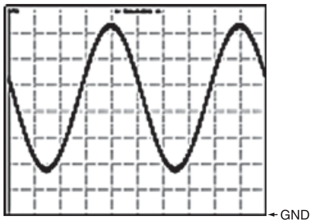
㉝ **C530+side (AV1_G_OUT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



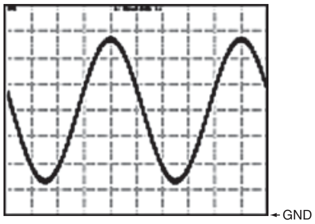
㉞ **C529+side (AV1_B_OUT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



㉟ **C542+side (AV1_L_OUT)**
(Function : DVD play)
V:500mV/div. H:10μsec/div.



(36) **JA501-pin6 (AV2_L_IN)**
(Function : LINE1 IN)
V:1V/div. H:10μsec/div.



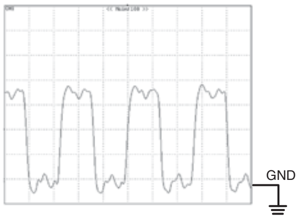
D SERVICE MAIN ASSY

Measurement Condition :

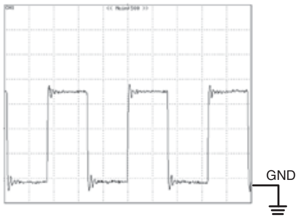
No.1 - 8 : EBU Color Bar (100 / 0 / 75 / 0)

A B C D E F

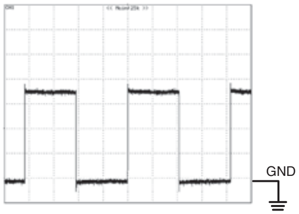
① **IC3201 Pin16 (DACMCK)**
V: 1V/div. H: 20ns/div.



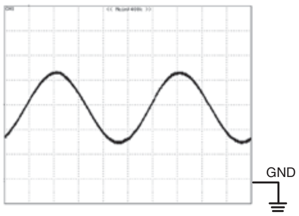
② **IC3201 Pin1 (DACBCK)**
V: 1V/div. H: 100ns/div.



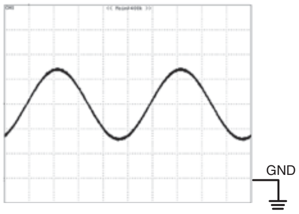
③ **IC3201 Pin3 (DACLRCK)**
V: 1V/div. H: 5us/div.



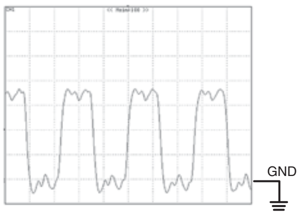
④ **CN2301 Pin21 (LCHOUT)**
V: 2V/div. H: 200us/div.



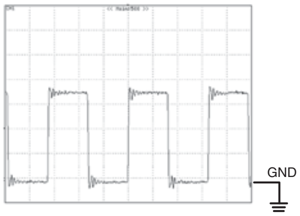
⑤ **CN2301 Pin19 (RCHOUT)**
V: 2V/div. H: 200us/div.



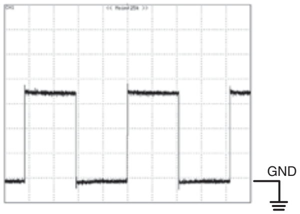
⑥ **IC3101 Pin11 (ADCCLK0)**
V: 1V/div. H: 20ns/div.



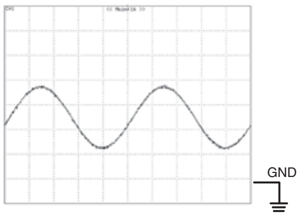
⑦ **IC3101 Pin12 (AD_BCK)**
V: 1V/div. H: 100ns/div.



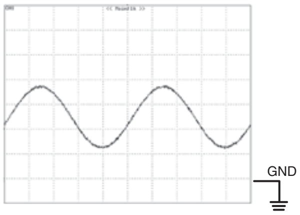
⑧ **IC3101 Pin10 (AD_LRCK)**
V: 1V/div. H: 5us/div.



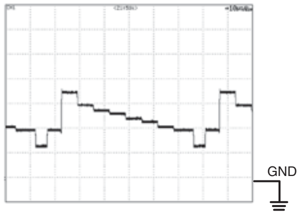
⑨ **CN2301 Pin15 (LCHIN)**
V: 1V/div. H: 200us/div.



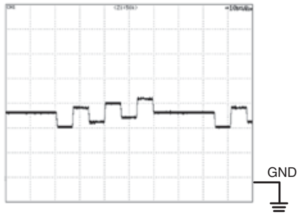
⑩ **CN2301 Pin17 (RCHIN)**
V: 1V/div. H: 200us/div.



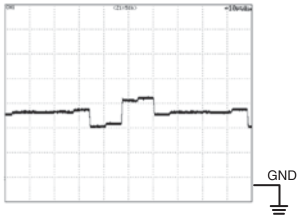
⑪ **CN2301 Pin39 (YP)**
V: 0.5V/div. H: 10us/div.



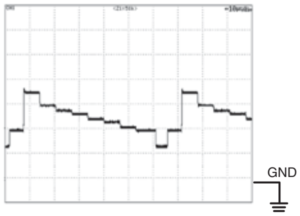
⑫ **CN2301 Pin35 (CB)**
V: 0.5V/div. H: 10us/div.



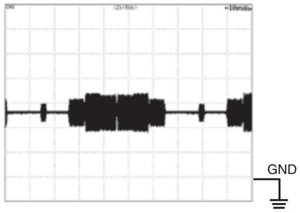
⑬ **CN2301 Pin37 (CR)**
V: 0.5V/div. H: 10us/div.



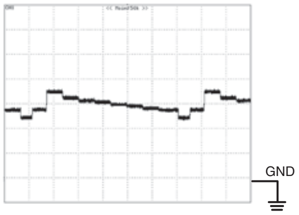
⑭ **CN2301 Pin33 (Y)**
V: 0.5V/div. H: 10us/div.



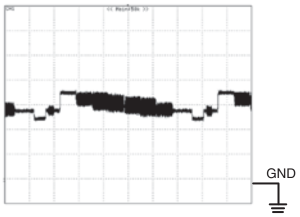
⑮ **CN2301 Pin31 (C)**
V: 0.5V/div. H: 10us/div.



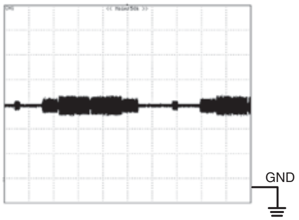
⑯ **CN2301 Pin29 (S_Y)**
V: 1V/div. H: 10us/div.



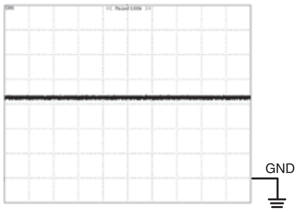
⑯ **CN2301 Pin29 (CVBS)**
V: 1V/div. H: 10us/div.



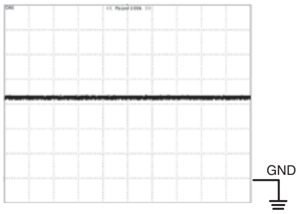
⑰ **CN2301 Pin27 (S_C)**
V: 1V/div. H: 10us/div.



⑱ **IC501 Pin34 (XDMUTE1)**
V: 1V/div. H: 20us/div.



⑲ **IC501 Pin35 (XDMUTE2)**
V: 1V/div. H: 20us/div.



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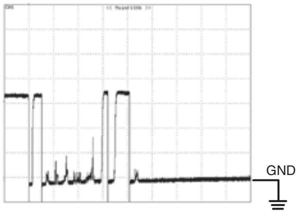
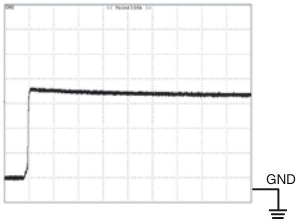
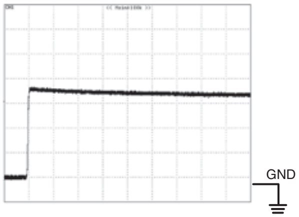
⑳ **CN601 Pin3 (CLOSE)**
open → close
V: 1V/div. H: 20us/div.



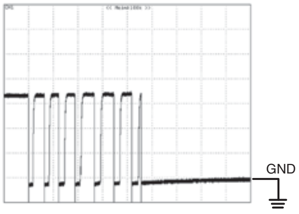
⑳ **CN601 Pin3 (CLOSE)**
close → open
V: 1V/div. H: 20us/div.



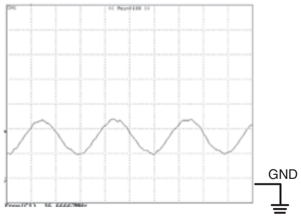
㉑ **CN601 Pin5 (OPEN)**
open → close
V: 1V/div. H: 20us/div.



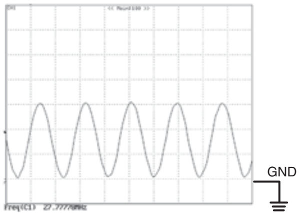
㉑ **CN601 Pin5 (OPEN)**
close → open
V: 1V/div. H: 20us/div.



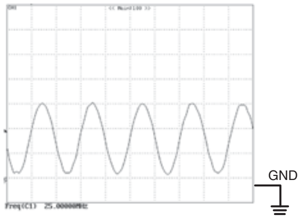
㉒ **X101 (16.66667 MHz)**
V: 1V/div. H: 20ns/div.



㉓ **X1002 (27.77778 MHz)**
V: 1V/div. H: 20ns/div.



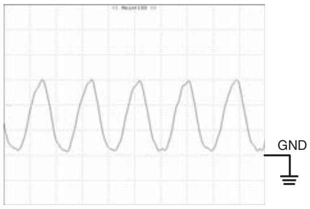
㉔ **X1001 (25 MHz)**
V: 1V/div. H: 20ns/div.



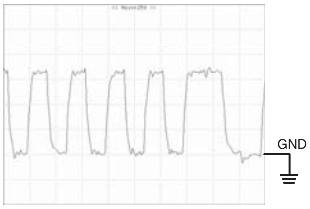
G SERVICE DTBR ASSY

Measurement Condition :

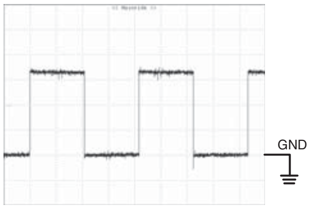
① **CN102 Pin8 (VCLK)**
V: 1V/div. H: 20ns/div.



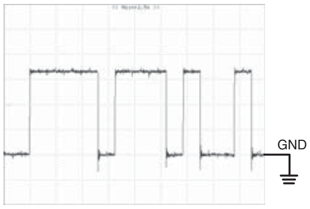
② **CN102 Pin17 (VDO0)**
V: 1V/div. H: 50ns/div.



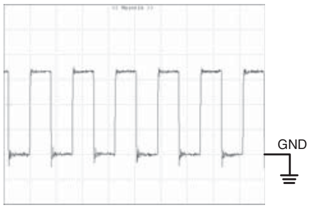
③ **CN102 Pin19 (ALRCK)**
V: 1V/div. H: 5us/div.



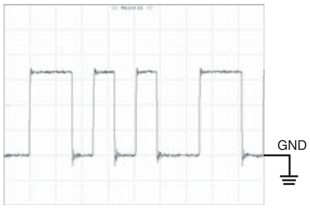
④ **CN102 Pin20 (ADATA)**
V: 1V/div. H: 500ns/div.



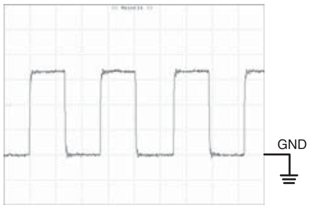
⑤ **CN102 Pin21 (ABCK)**
V: 1V/div. H: 200ns/div.



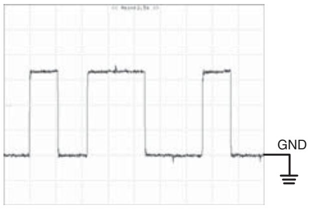
⑥ **CN102 Pin23 (SPDIF)**
V: 1V/div. H: 200ns/div.



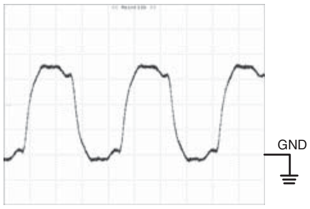
⑦ **IC106 Pin1 (CI_TPS_MCLK)**
V: 1V/div. H: 200ns/div.



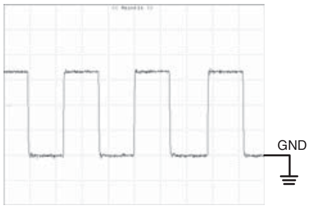
⑧ **IC106 Pin5 (CI_TPS_DATA0)**
V: 1V/div. H: 500ns/div.



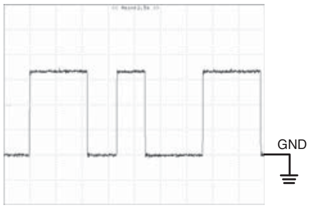
⑨ **IC106 Pin137 (CLK27IN)**
V: 1V/div. H: 10ns/div.



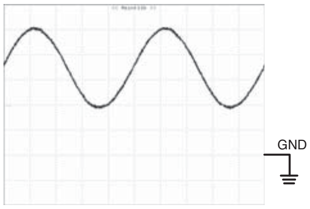
⑪ **IC313 Pin17 (TSCLK)**
V: 1V/div. H: 200ns/div.



⑫ **IC313 Pin25 (TS1_DATA0)**
V: 1V/div. H: 500ns/div.



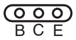
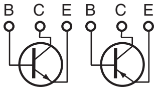
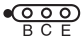
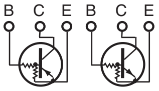
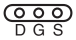
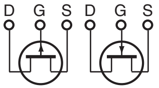
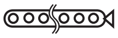
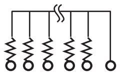
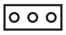
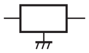
⑬ **IC313 Pin56 (XO)**
V: 0.5V/div. H: 10ns/div.



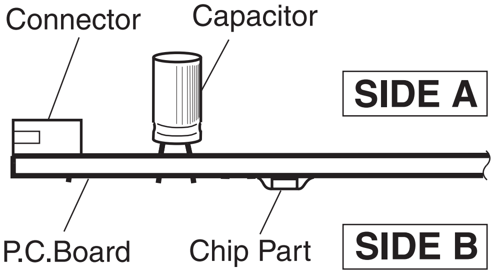
11. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

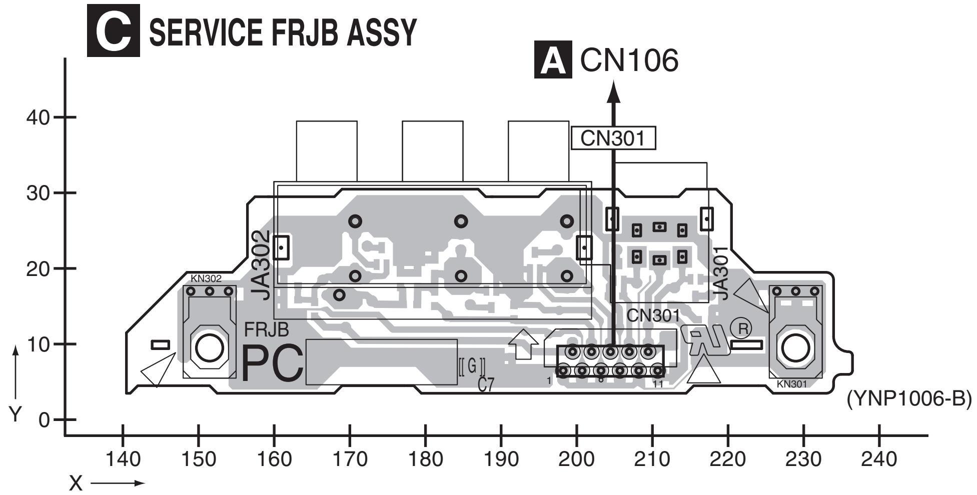
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.


Connector
Capacitor
SIDE A
P.C.Board
Chip Part
SIDE B

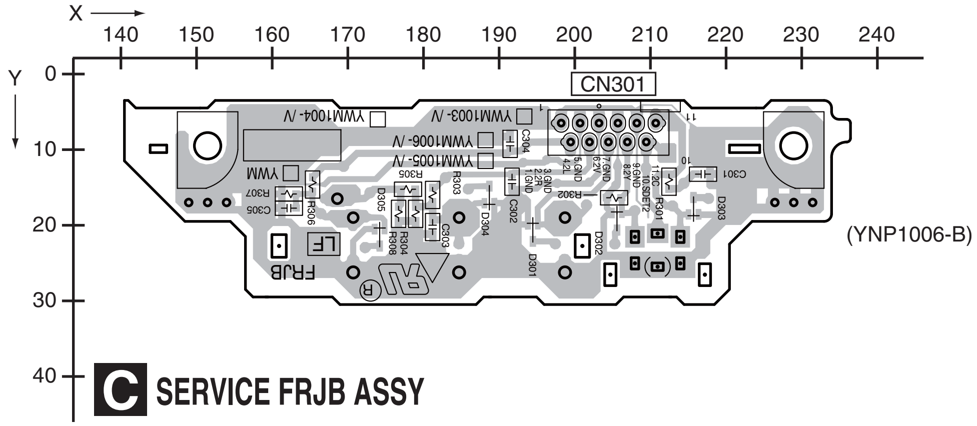
11.1 SERVICE FRJB ASSY

SIDE A


C SERVICE FRJB ASSY
A CN106
CN301
JA302
JA301
KN302
KN301
CN301
FRJB
PC
C7
1
11
(YNP1006-B)
Y
X
0
10
20
30
40
140
150
160
170
180
190
200
210
220
230
240

SIDE A

SIDE B


X
Y
140
150
160
170
180
190
200
210
220
230
240
0
10
20
30
40
CN301
YWM1004-/V
YWM1003-/V
YWM1006-/V
YWM1005-/V
YWM
R307
C305
R306
D305
R305
R304
R308
C303
R303
D304
C302
C304
R302
D302
D301
R301
D303
C301
LF
FRJB
11
10
1
(YNP1006-B)
C SERVICE FRJB ASSY

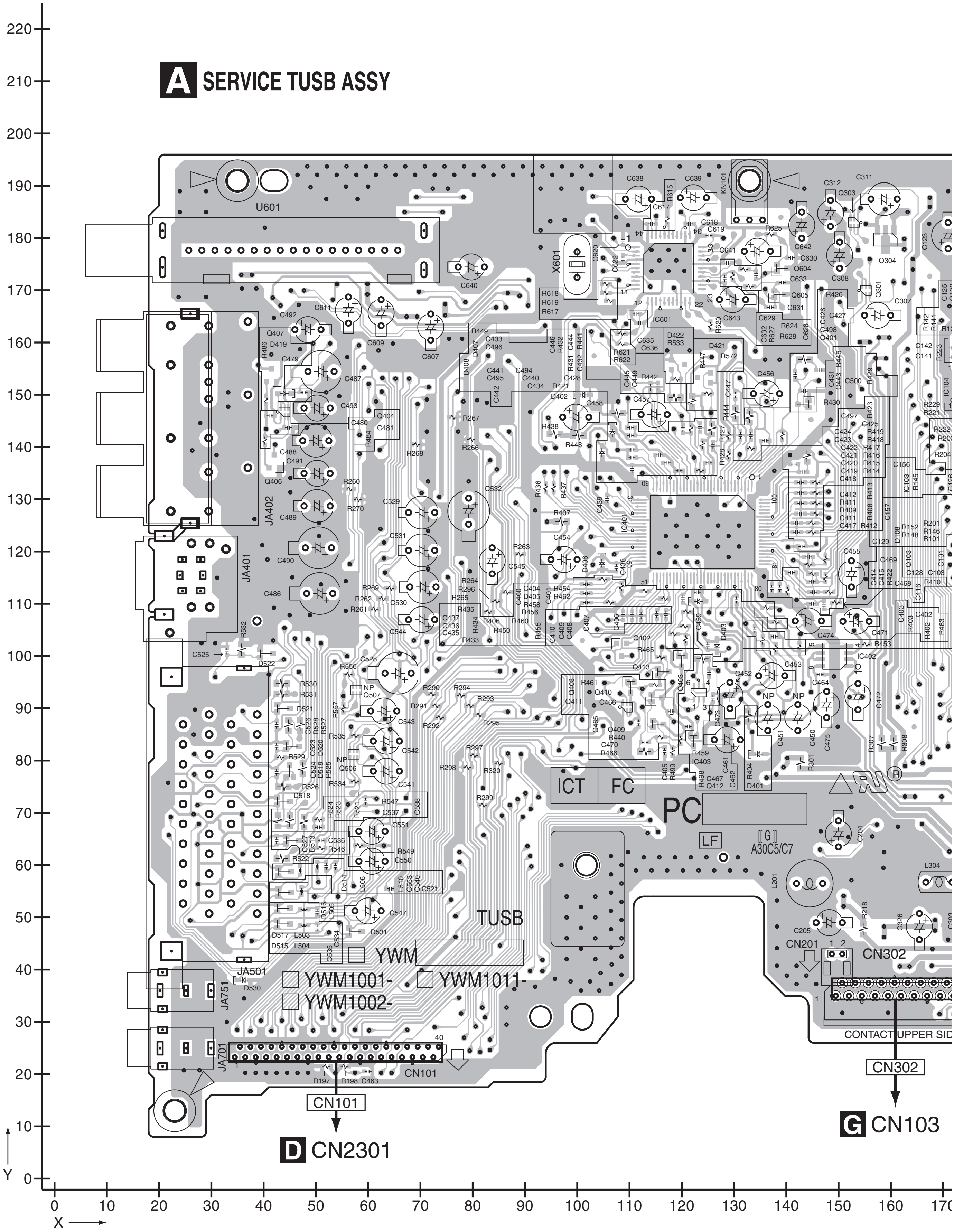
SIDE B

C

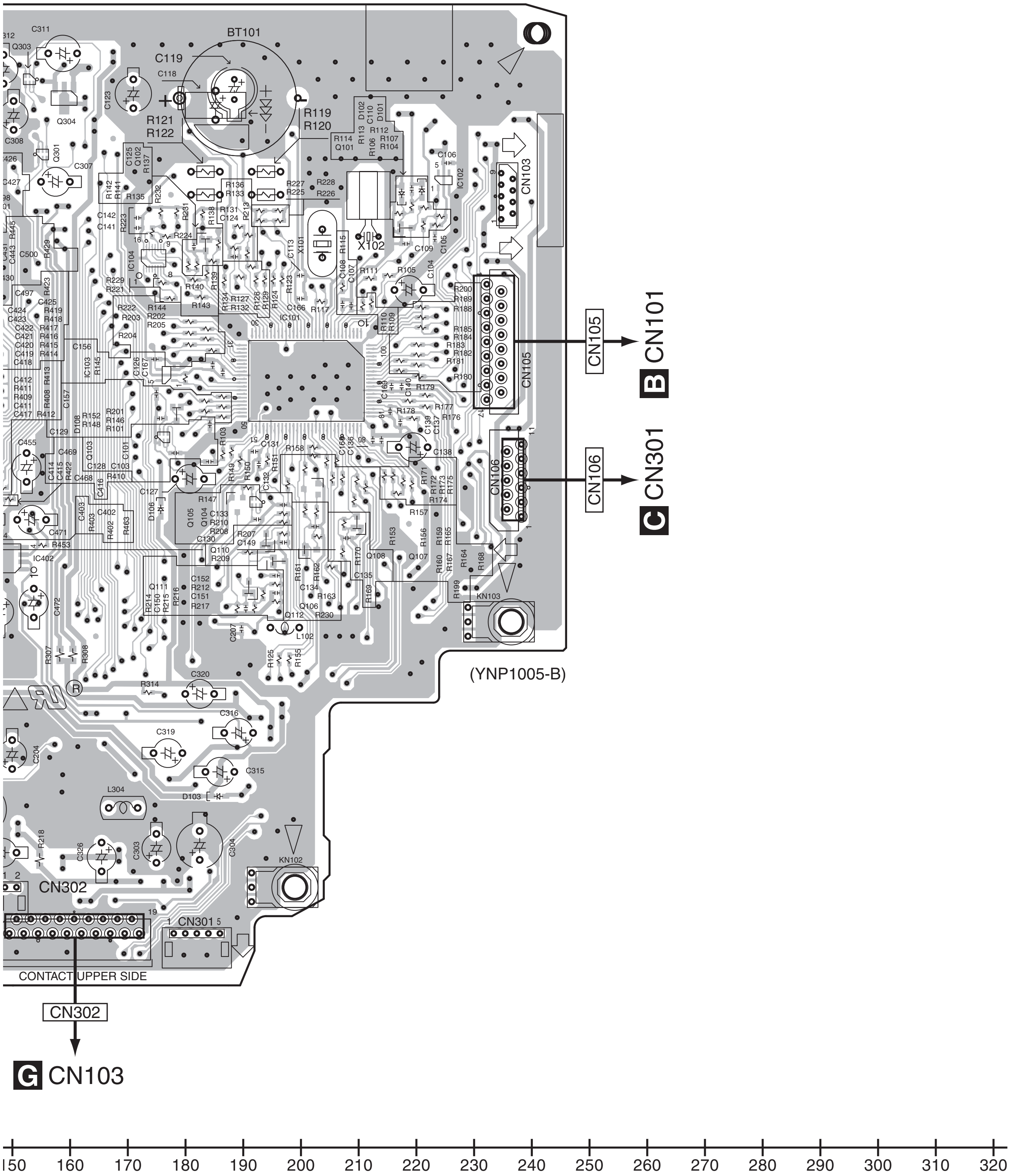
C

11.2 SERVICE TUSB ASSY

SIDE A

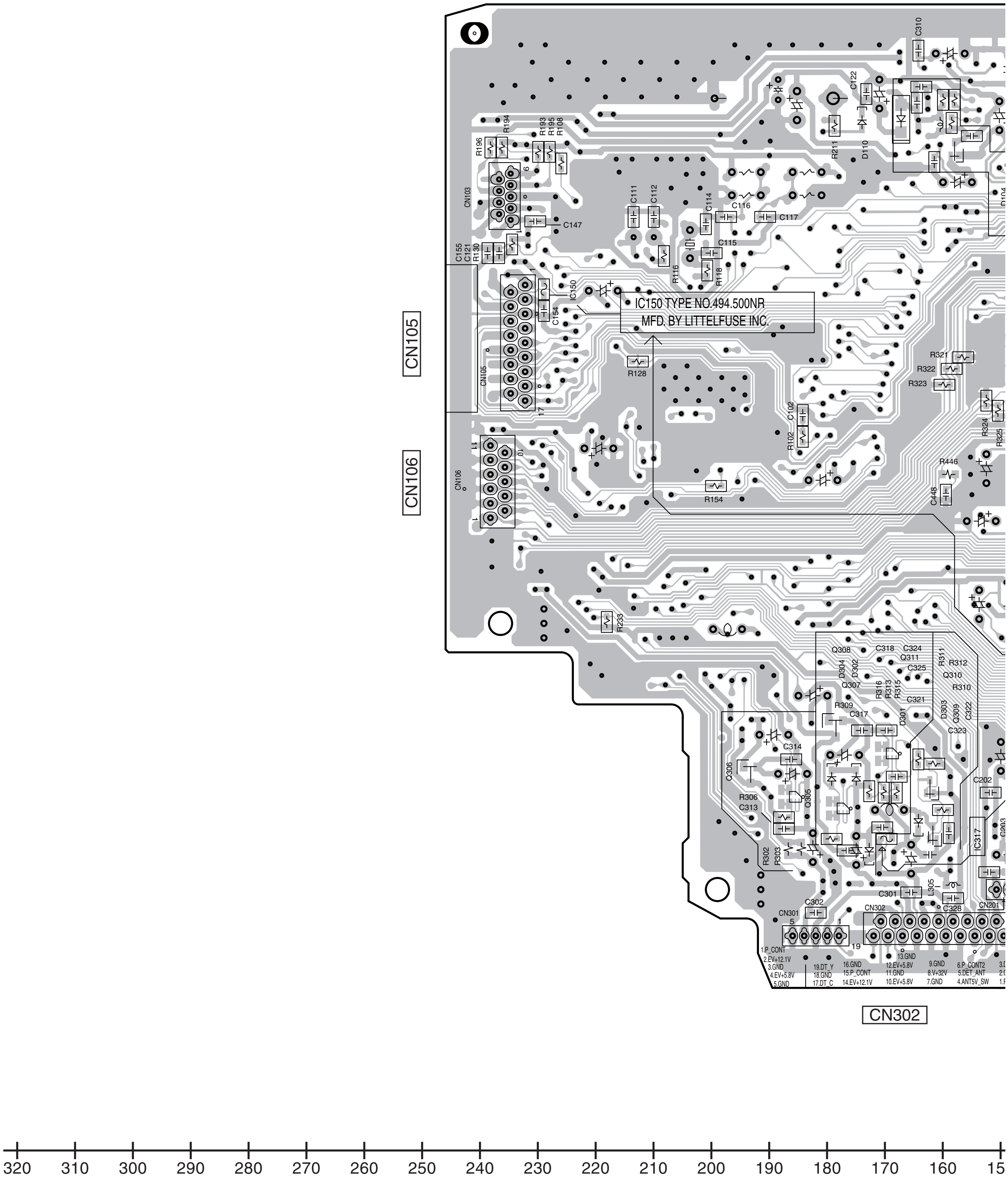

A SERVICE TUSB ASSY
U601
X601
KN101
IC601
IC401
IC402
IC403
IC103
IC104
JA402
JA401
JA501
JA751
JA701
CN101
CN2301
D CN2301
CN302
G CN103
CN201
L201
L304
TUSB
YWM
YWM1001-
YWM1002-
YWM1011-
ICT
FC
PC
LF
[[G]]
A30C5/C7
CONTACT UPPER SID
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
Y
X
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170

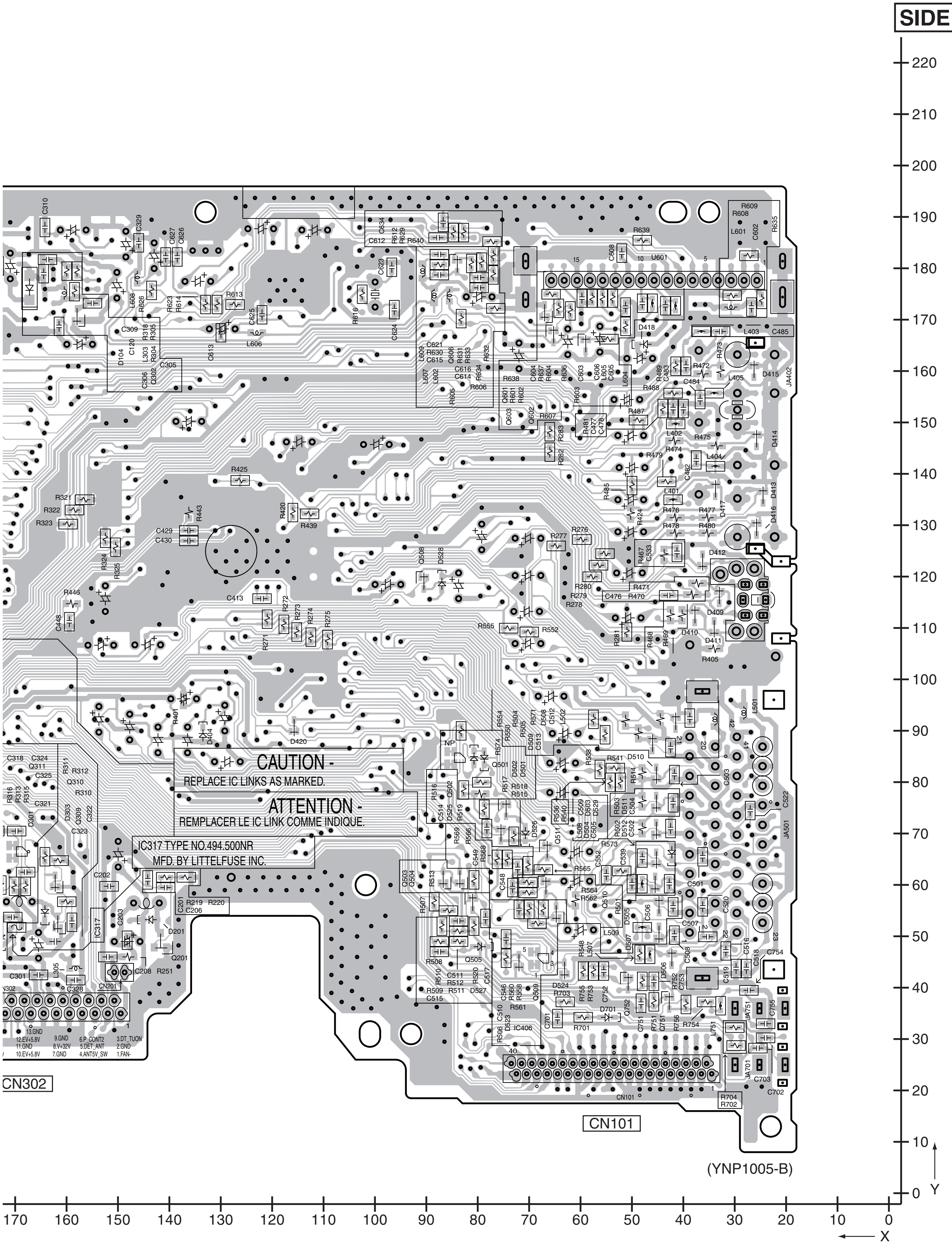
SIDE A


BT101
C119
C118
R121
R122
R119
R120
X101
X102
IC101
IC102
IC103
IC104
IC402
CN103
CN105
B CN101
CN106
C CN301
KN103
KN102
L102
L304
D103
(YNP1005-B)
CN302
CN301
CONTACT UPPER SIDE
G CN103
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
310
320

SIDE B

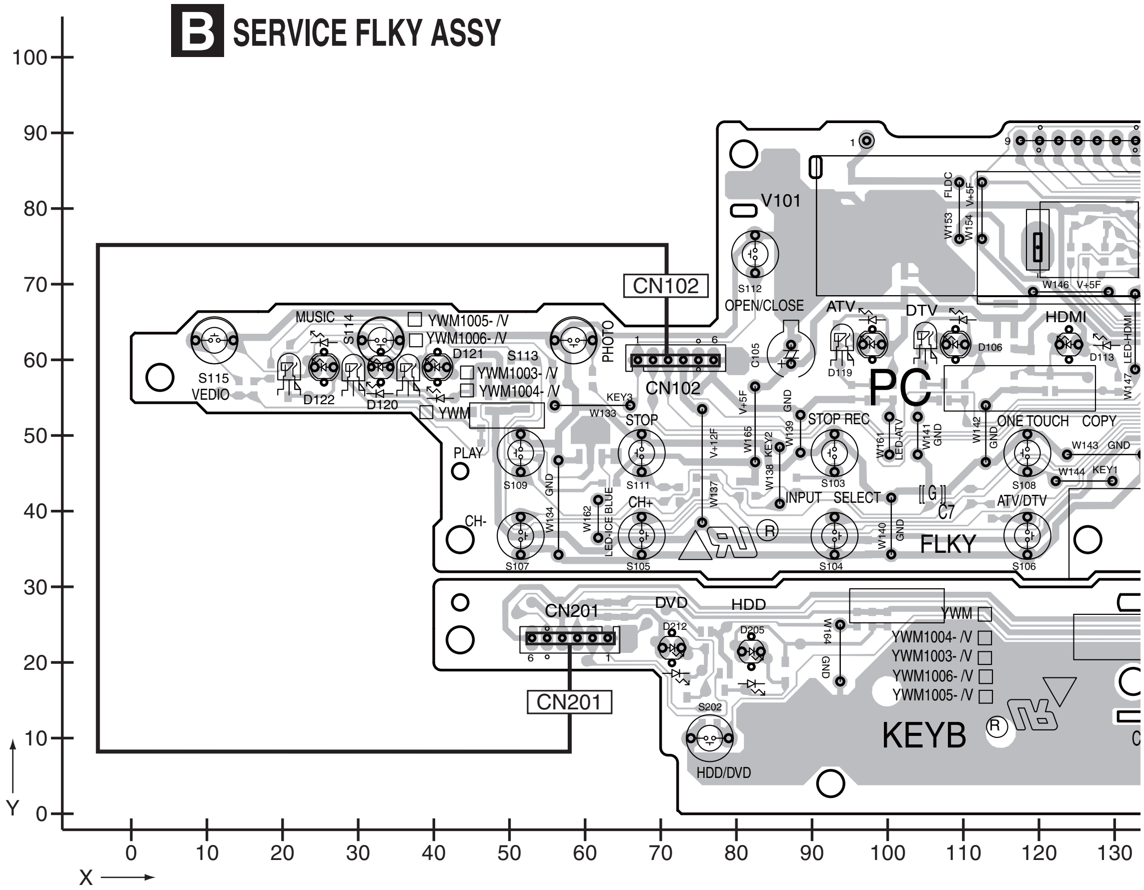
A SERVICE TUSB ASSY


C310
C122
R211
D110
D104
R196
R194
R193
R195
R108
CN103
C111
C112
C114
C116
C117
C147
C155
C121
R130
C115
R116
R118
IC150
C154
IC150 TYPE NO.494.500NR
MFD. BY LITTELFUSE INC.
CN105
R128
R321
R322
R323
R324
R325
C102
R102
CN106
R446
C448
R154
R233
Q308
C318
C324
Q311
D304
D302
R311
R312
C325
Q307
R316
R313
R315
Q310
R310
R309
C321
C317
D301
D303
Q309
C322
C323
C314
Q306
R306
C313
Q305
C202
IC317
C203
R302
R303
C301
L305
C302
C328
CN301
CN302
CN201
5
1
19
1.P_CONT
2.EV+12.1V
3.GND
4.EV+5.8V
5.GND
19.DT_Y
18.GND
17.DT_C
16.GND
15.P_CONT
14.EV+12.1V
13.GND
12.EV+5.8V
11.GND
10.EV+5.8V
9.GND
8.V+32V
7.GND
6.P_CONT2
5.DET_ANT
4.ANT5V_SW
CN302
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160

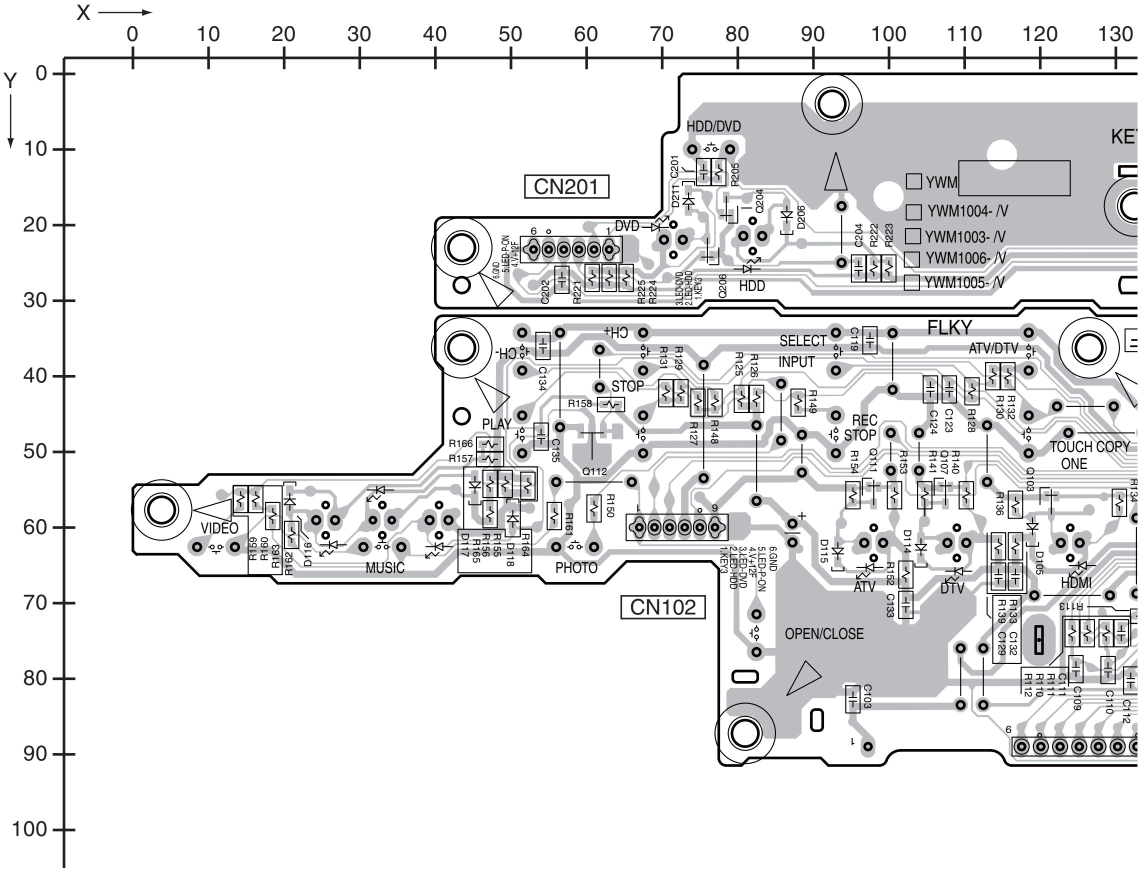

SIDE B
CAUTION -
REPLACE IC LINKS AS MARKED.
ATTENTION -
REMPLACER LE IC LINK COMME INDIQUE.
IC317 TYPE NO.494.500NR
MFD. BY LITTELFUSE INC.
13.GND
12.EV+5.8V
11.GND
10.EV+5.8V
9.GND
8.V+32V
7.GND
6.P_CONT2
5.DET_ANT
4.ANT5V_SW
3.DT_TUON
2.GND
1.FAN-
CN302
CN201
CN101
U601
IC406
JA501
JA701
JA751
JA402
(YNP1005-B)
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
Y
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
X

11.3 SERVICE FLKY ASSY

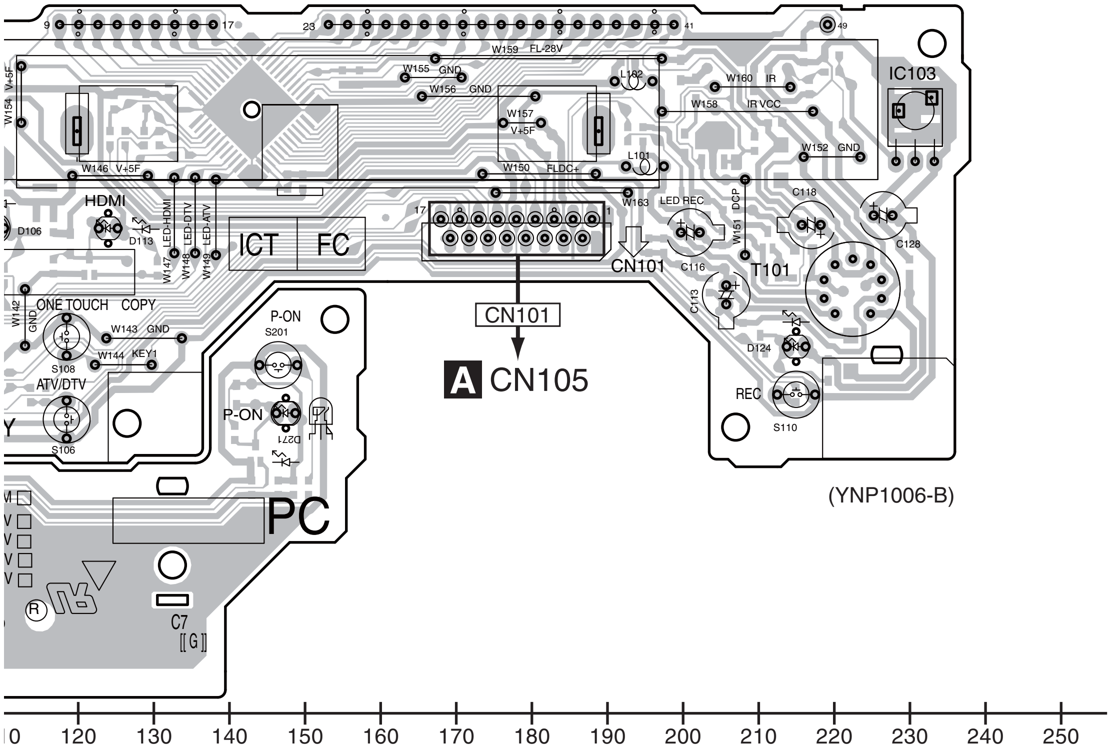
SIDE A


B SERVICE FLKY ASSY
100
90
80
70
60
50
40
30
20
10
0
Y
X
0 10 20 30 40 50 60 70 80 90 100 110 120 130
V101
S112
OPEN/CLOSE
CN102
MUSIC
S114
YWM1005- /V
YWM1006- /V
D121
S113
YWM1003- /V
YWM1004- /V
YWM
PHOTO
S115
VEDIO
D122
D120
KEY3
W133
STOP
PLAY
S109
S111
GND
V+12F
V+5F
W165
W138
KEY2
W139
GND
STOP REC
W161
LED-ATV
W141
GND
W142
GND
ONE TOUCH
COPY
W143
GND
W144
KEY1
S103
S108
INPUT
SELECT
C7
ATV/DTV
CH-
CH+
W134
GND
W162
LED-ICE BLUE
W137
W140
GND
FLKY
S107
S105
S104
S106
ATV
DTV
HDMI
D119
D106
D113
LED-HDMI
W147
C105
PC
FLDC
V+5F
W153
W154
W146
V+5F
CN201
DVD
HDD
D212
D205
W164
GND
YWM
YWM1004- /V
YWM1003- /V
YWM1006- /V
YWM1005- /V
S202
HDD/DVD
KEYB
6 1
1 6
1 9

SIDE B

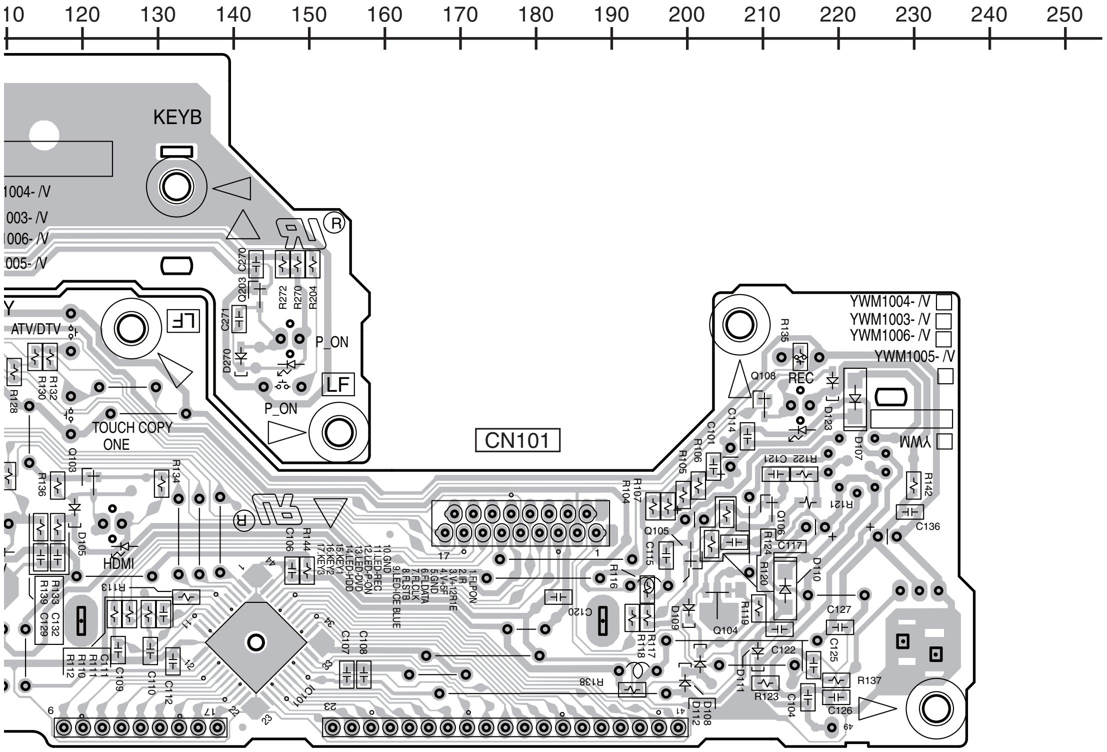

X
0 10 20 30 40 50 60 70 80 90 100 110 120 130
Y
0
10
20
30
40
50
60
70
80
90
100
HDD/DVD
KEY
C201
R205
CN201
D211
Q204
D206
DVD
YWM
YWM1004- /V
YWM1003- /V
YWM1006- /V
YWM1005- /V
C204
R222
R223
C202
R221
R225
R224
Q206
HDD
FLKY
CH+
CH-
SELECT
INPUT
C119
ATV/DTV
C134
R131
R129
R126
R125
STOP
R158
R127
R148
R149
REC
STOP
C124
C123
R128
R130
R132
PLAY
R166
R157
C135
Q112
R154
Q111
R153
R141
Q107
R140
Q103
TOUCH COPY
ONE
R136
VIDEO
R159
R160
R163
R162
D116
MUSIC
D117
R165
R156
R155
D118
R164
R161
R150
PHOTO
CN102
D115
D114
ATV
R152
C133
DTV
D105
HDMI
OPEN/CLOSE
R139
R133
C129
C132
R113
R112
R110
R111
C109
C110
C112
C103
6
9
1

SIDE A


W159 FL-28V
W155 GND
W156 GND
L102
W160 IR
W158 IR VCC
IC103
W154 V+5F
W157
V+5F
L101
W152 GND
W146 V+5F
W150 FLDC+
W163
LED REC
DCP
W151
C118
C128
HDMI
D106
D113
LED-HDMI
LED-DTV
LED-ATV
W147
W148
W149
ICT
FC
17
1
CN101
C116
T101
C113
D124
W142 GND
ONE TOUCH COPY
W143 GND
W144 KEY1
S108
ATV/DTV
S106
P-ON
S201
P-ON
D271
CN101
A CN105
REC
S110
PC
C7
[[G]]
9
17
23
41
49
110 120 130 140 150 160 170 180 190 200 210 220 230 240 250

(YNP1006-B)

SIDE B


110 120 130 140 150 160 170 180 190 200 210 220 230 240 250
KEYB
YWM1004- /V
YWM1003- /V
YWM1006- /V
YWM1005- /V
C270
Q203
R272
R270
R204
C271
D270
P_ON
P_ON
LF
LF
ATV/DTV
R130
R132
R128
TOUCH COPY
ONE
Q103
R136
D105
HDMI
R113
R134
R133
R139
C132
C129
R112
R110
R111
C111
C109
C110
C112
Q106
R144
IC101
C107
C108
1 FLPON
2 IR
3 V+12RTE
4 V+5F
5 GND
6 GND
7 FLDATA
8 FLCLK
9 FLSTB
10 GND
11 LED-REC
12 LED-DTV
13 LED-ATV
14 LED-HDD
15 KEY1
16 KEY2
17 KEY3
CN101
C120
R116
R138
R135
Q108
REC
D123
D107
YWM
C101
C114
R106
R105
R107
R104
Q105
C115
R118
R117
D109
Q104
R119
R120
R124
C117
Q106
R122
C121
R121
R142
C136
D110
C127
C125
C122
D111
R123
C104
R137
C126
D108
D112
6
17
23
41
49

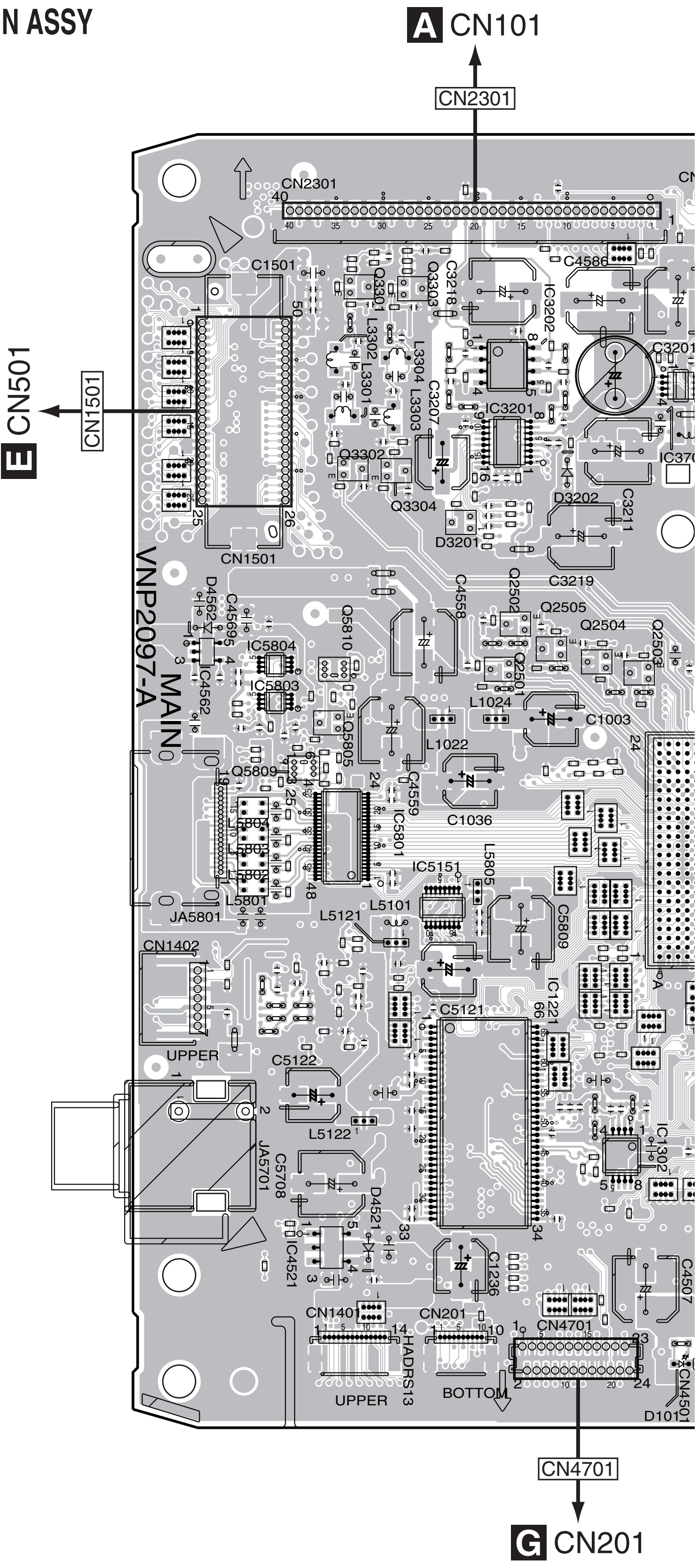
(YNP1006-B)

11.4 SERVICE MAIN ASSY

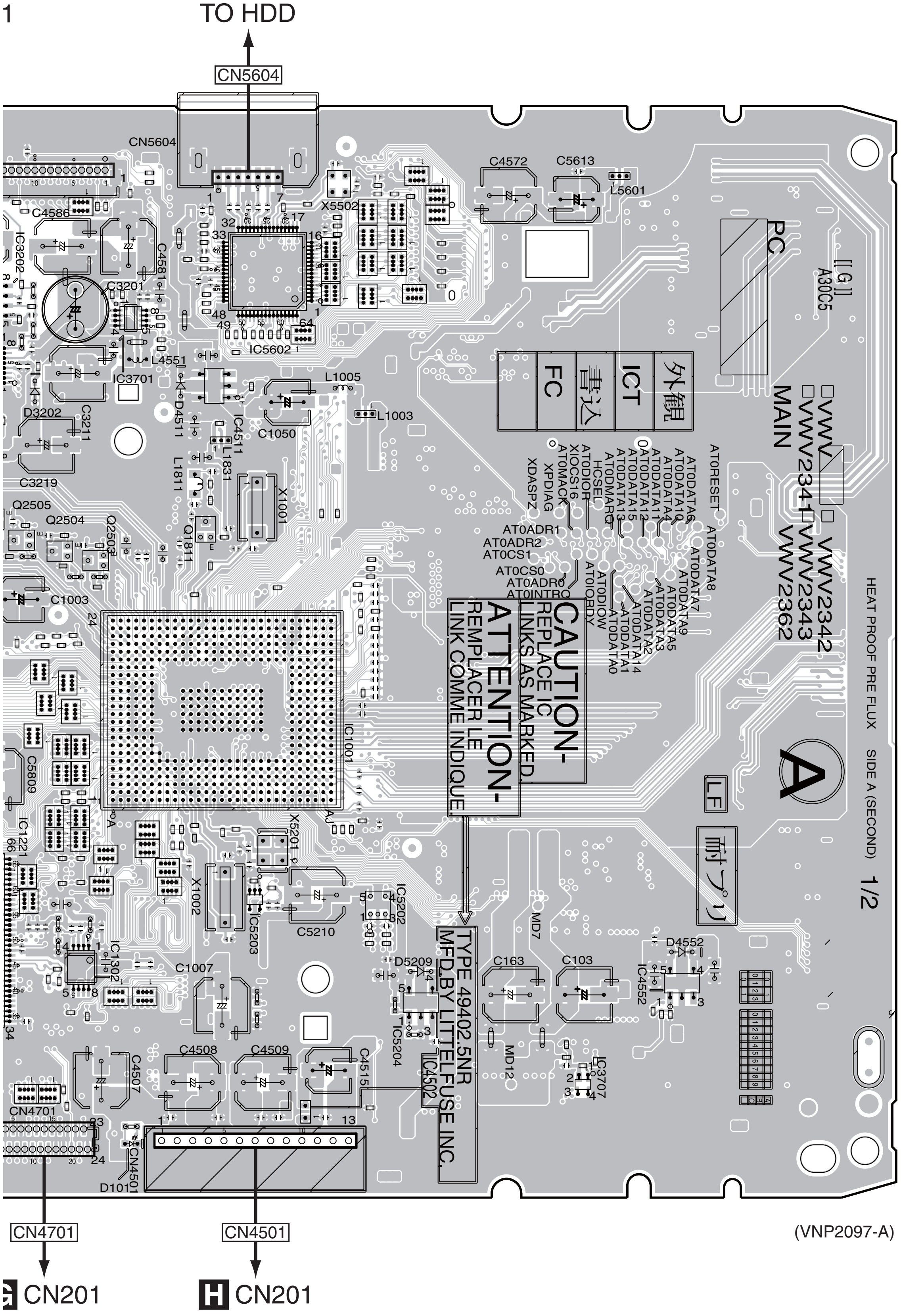
SIDE A

D SERVICE MAIN ASSY

IC	Q
IC3202	Q3301 Q3303
IC3201 IC5602	
IC3701	Q3302
	Q3304
IC4511	
	Q2502
	Q2505
	Q2504 Q5810
IC5804	Q1811 Q2503
IC4562 IC5803	Q2501
	Q5805
	Q5809
IC5801	
IC5151	
IC1001	
IC1221	
IC5202	
IC5203	
IC1302	
IC4552	
IC5204	
IC4521	
IC3707 IC4502	


A CN101
CN2301
E CN501
CN1501
G CN201
CN4701
MAIN
VNP2097-A
CN2301
C1501
Q3301
Q3303
C3218
IC3202
C4586
C3201
L3302
L3301
L3304
L3303
C3207
IC3201
Q3302
Q3304
D3202
C3211
D3201
C3219
CN1501
D4562
C4569
C4558
Q2502
Q2505
Q2504
Q2503
Q5810
IC5804
IC5803
C4562
Q2501
L1024
C1003
L1022
Q5805
Q5809
C4559
C1036
IC5801
IC5151
L5805
C5809
L5801
JA5801
L5121
L5101
CN1402
IC1221
C5121
UPPER
C5122
L5122
JA5701
C5708
D4521
IC1302
IC4521
C1236
C4507
CN1401
CN201
CN4701
HADRS13
UPPER
BOTTOM
CN4501
D101

SIDE A

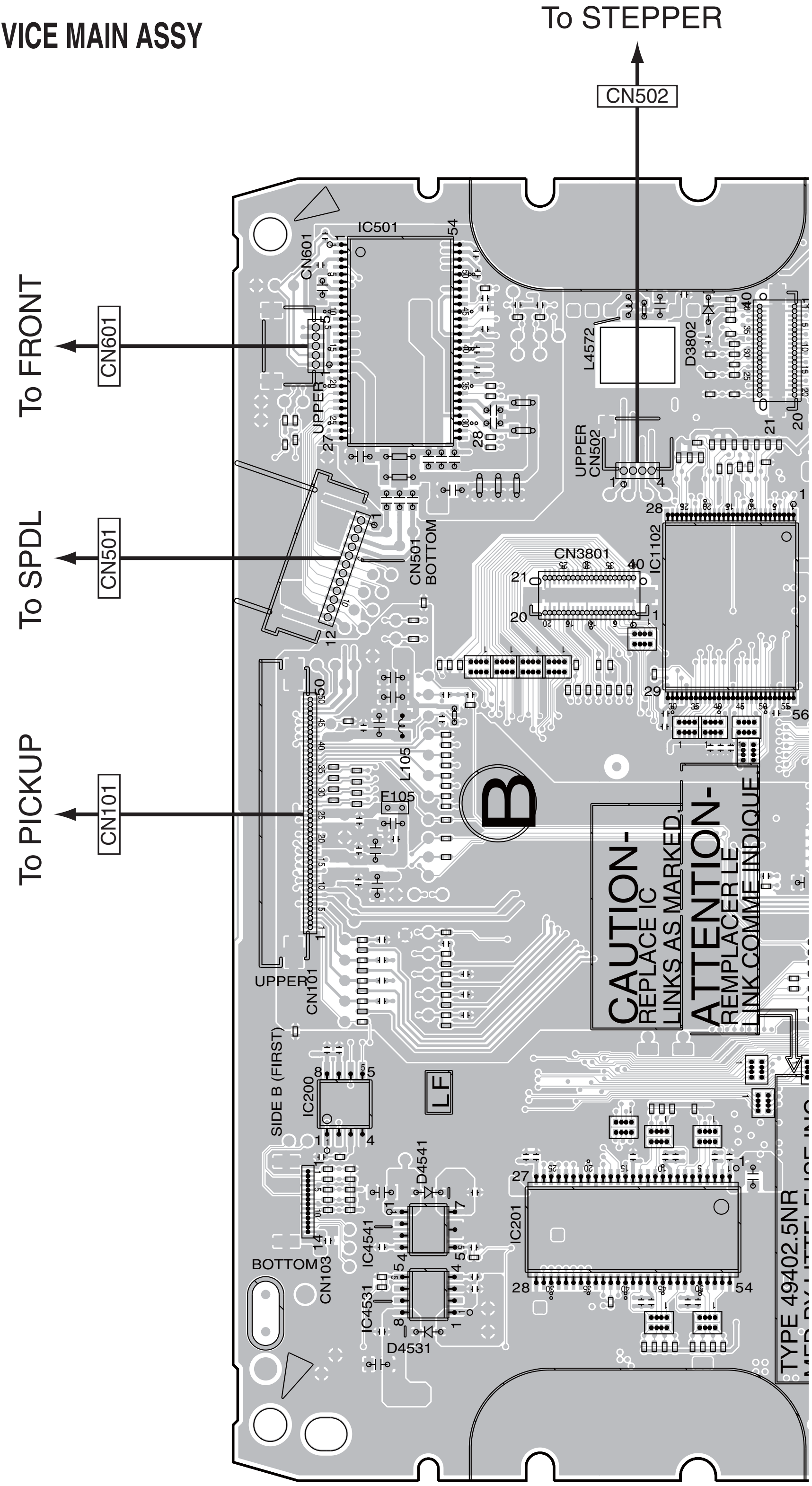

1
TO HDD
CN5604
CN5604
X5502
C4586
IC3202
C4581
C3201
IC5602
L4551
IC3701
D4511
IC4511
L1005
L1003
C1050
D3202
C3211
C3219
L1831
L1811
X1001
Q1811
Q2505
Q2504
Q2503
C1003
C4572
C5613
L5601
PC
[[G]]
A30C5
外観
ICT
書込
FC
□VWV2342
□VWV2341□VWV2343
MAIN VWV2362
AT0RESET
AT0DATA8
AT0DATA7
AT0DATA9
AT0DATA5
AT0DATA3
AT0DATA2
AT0DATA14
AT0DATA1
AT0DATA0
AT0DATA6
AT0DATA10
AT0DATA4
AT0DATA11
AT0DATA12
AT0DATA13
AT0DATA15
AT0DMARQ
HCSEL
AT0DIOR
XIOCS16
AT0MACK
XPDIAG
XDASPZ
AT0ADR1
AT0ADR2
AT0CS1
AT0CS0
AT0ADR0
AT0INTRQ
AT0IORDY
AT0DIOW
CAUTION-
REPLACE IC
LINKS AS MARKED.
ATTENTION-
REMPLACER LE
LINK COMME INDIQUE
HEAT PROOF PRE FLUX SIDE A (SECOND) 1/2
A
LF
耐プリ
IC1001
C5809
IC1221
X5201
X1002
IC5203
C5210
IC5202
MD7
D4552
IC4552
IC1302
C1007
D5209
IC5204
C163
C103
MD12
IC3707
TYPE 49402.5NR
MFD.BY LITTELFUSE INC.
IC4502
C4507
C4508
C4509
C4515
CN4701
CN4501
D101
CN4701
CN4501
CN201
H CN201

(VNP2097-A)

SIDE B

D SERVICE MAIN ASSY

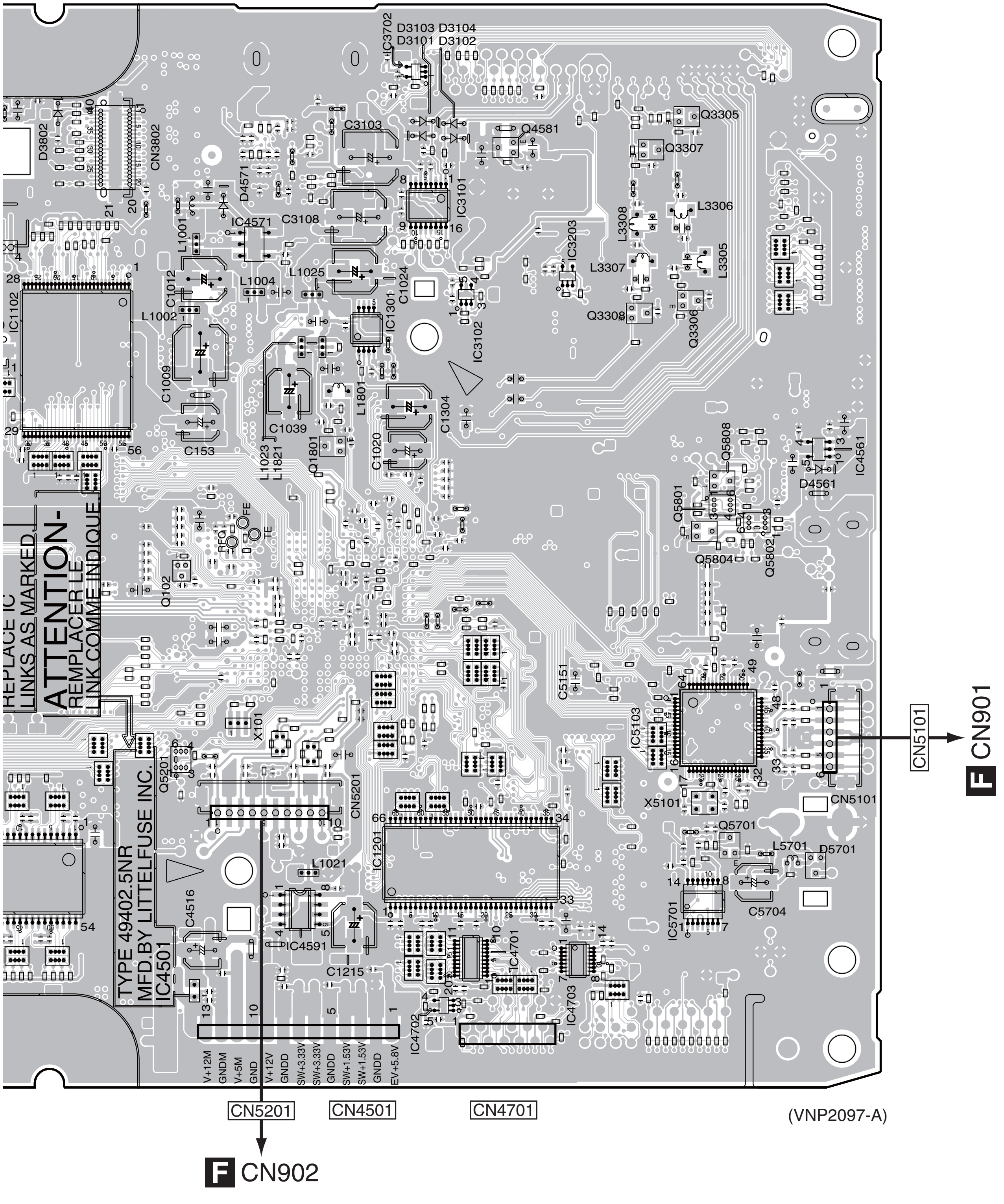
IC	Q
IC3702	
IC501	
	Q3305
	Q4581
	Q3307
IC3101	
IC4571	
IC3203	
IC1102 IC1301	
	Q3306 Q3308
IC3102	
	Q5808
IC4561	Q1801
	Q5801
	Q5802
	Q5804
	Q102
IC5103	
IC200	Q5201
	Q5701
IC1201	
IC201	
IC4541	
IC5701	
IC4701 IC4531	
IC4591	
IC4501	
IC4703	
IC4702	


To STEPPER
CN502
To FRONT
CN601
To SPDL
CN501
To PICKUP
CN101
IC501
54
CN601
UPPER
27
28
L4572
D3802
40
21
20
UPPER
CN502
1
4
28
IC1102
CN3801
40
21
20
1
29
56
CN501
BOTTOM
12
50
L105
F105
B
CAUTION-
REPLACE IC
LINKS AS MARKED
ATTENTION-
REMPLACER LE
LINK COMME INDIQUE
UPPER
CN101
SIDE B (FIRST)
IC200
8
5
1
4
LF
D4541
IC4541
IC4531
D4531
BOTTOM
CN103
14
IC201
27
28
54
TYPE 49402.5NR

SIDE B

PPER

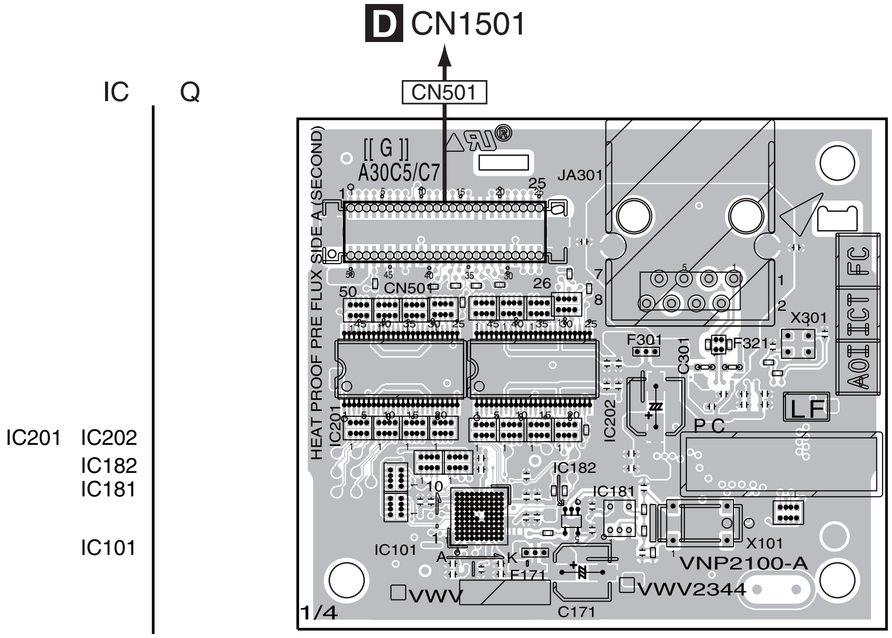
502


D3103 D3104
D3101 D3102
IC3702
C3103
Q4581
Q3305
Q3307
L3306
L3308
L3307
L3305
IC3203
Q3308
Q3306
IC3101
C3108
IC4571
D4571
L1001
L1004
L1025
C1012
L1002
C1024
IC1301
IC3102
C1009
C1039
L1801
C1304
C153
L1023
L1821
Q1801
C1020
D3802
CN3802
IC1102
ATTENTION-
REPLACE IC
LINKS AS MARKED
REMPLACER LE
LINK COMME INDIQUE
FE
RFO
TE
Q102
X101
Q5201
CN5201
TYPE 49402.5NR
MFD.BY LITTELFUSE INC.
IC4501
C4516
L1021
IC4591
C1215
IC1201
IC4701
IC4702
IC4703
Q5808
Q5801
Q5804
Q5802
IC4561
D4561
C5151
IC5103
X5101
Q5701
L5701
D5701
C5704
IC5701
CN5101
CN901
F
V+12M
GNDM
V+5M
GND
V+12V
GNDD
SW+3.33V
SW+3.33V
GNDD
SW+1.53V
SW+1.53V
GNDD
EV+5.8V
CN5201
CN4501
CN4701
(VNP2097-A)
F
CN902

11.5 ETAB ASSY (DVR-LX61D ONLY)

SIDE A **SIDE A**

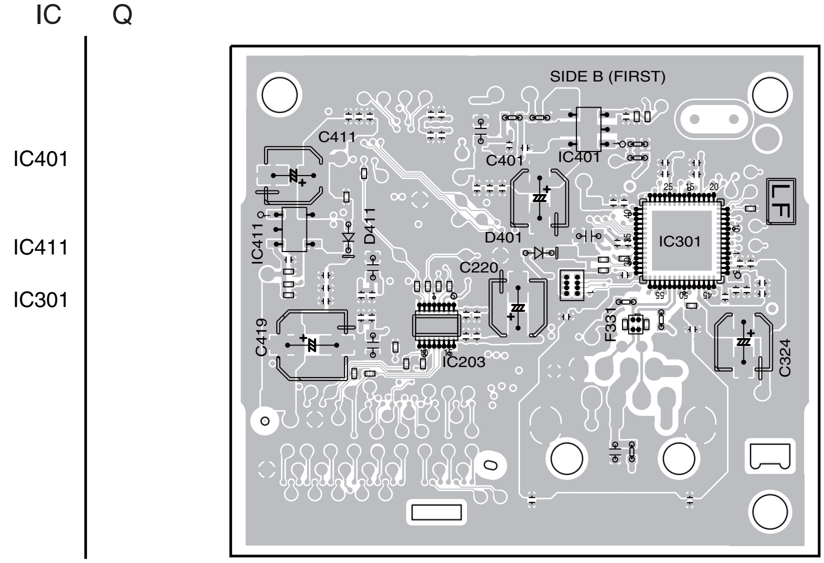
E ETAB ASSY


D CN1501
CN501
IC
Q
IC201
IC202
IC182
IC181
IC101
[[G]]
A30C5/C7
HEAT PROOF PRE FLUX SIDE A (SECOND)
JA301
1
25
50
26
7
8
1
2
CN501
X301
F301
F321
C301
FC
ICT
AOI
LF
PC
IC201
IC202
IC182
IC181
10
IC101
A
K
F171
X101
VNP2100-A
VWV
VWV2344
1/4
C171

(VNP2100-A)

SIDE B **SIDE B**

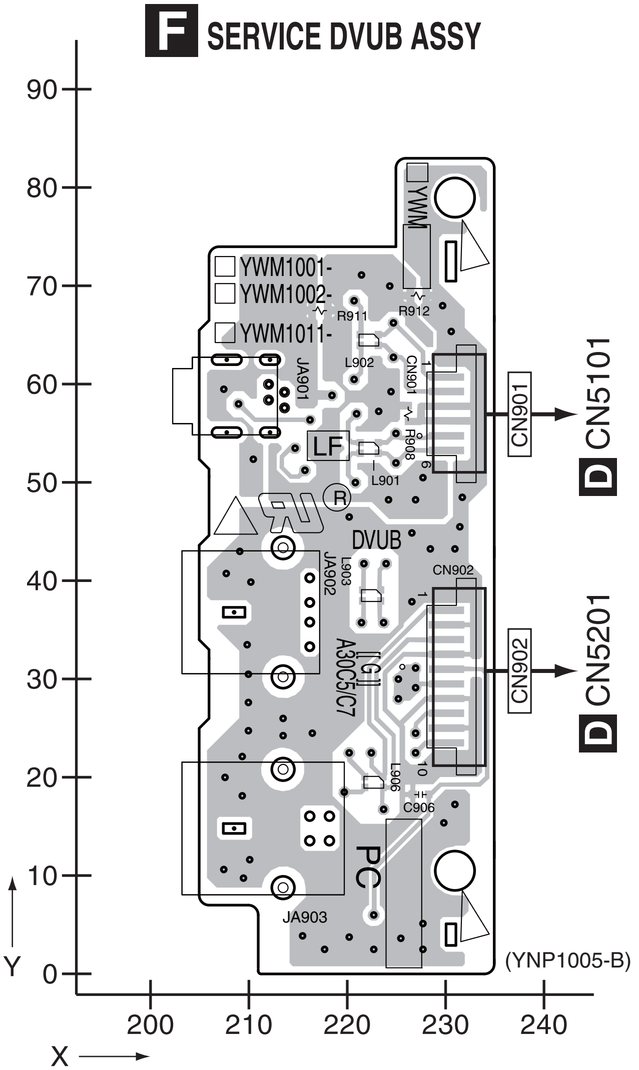
E ETAB ASSY


IC
Q
IC401
IC411
IC301
SIDE B (FIRST)
C411
C401
IC401
LF
IC411
D411
D401
IC301
C220
C419
F331
C324
IC203

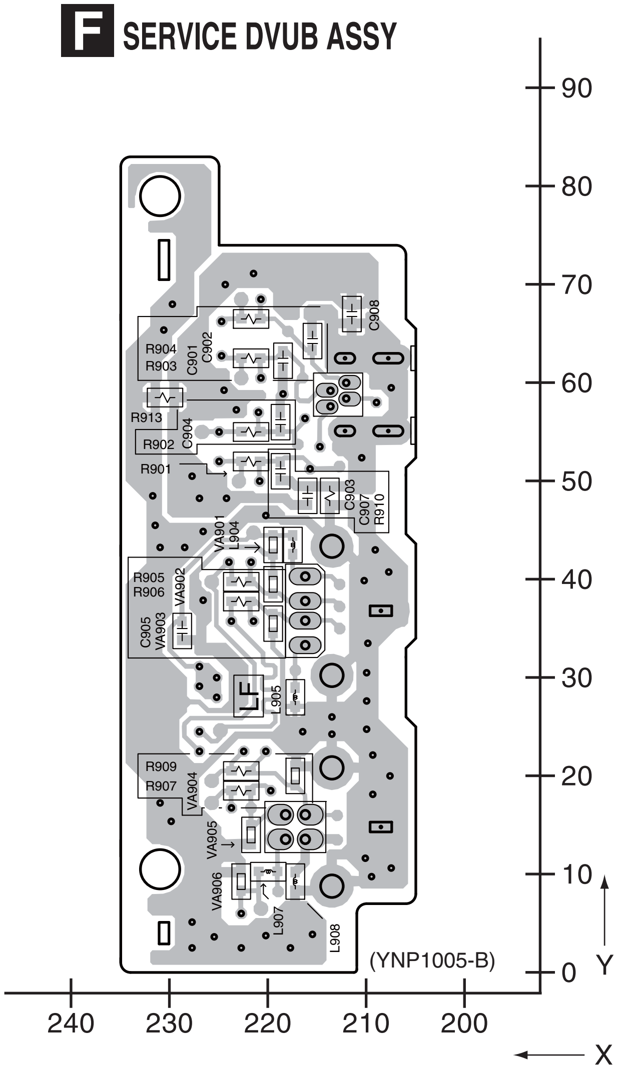
(VNP2100-A)

11.6 SERVICE DVUB ASSY

SIDE A

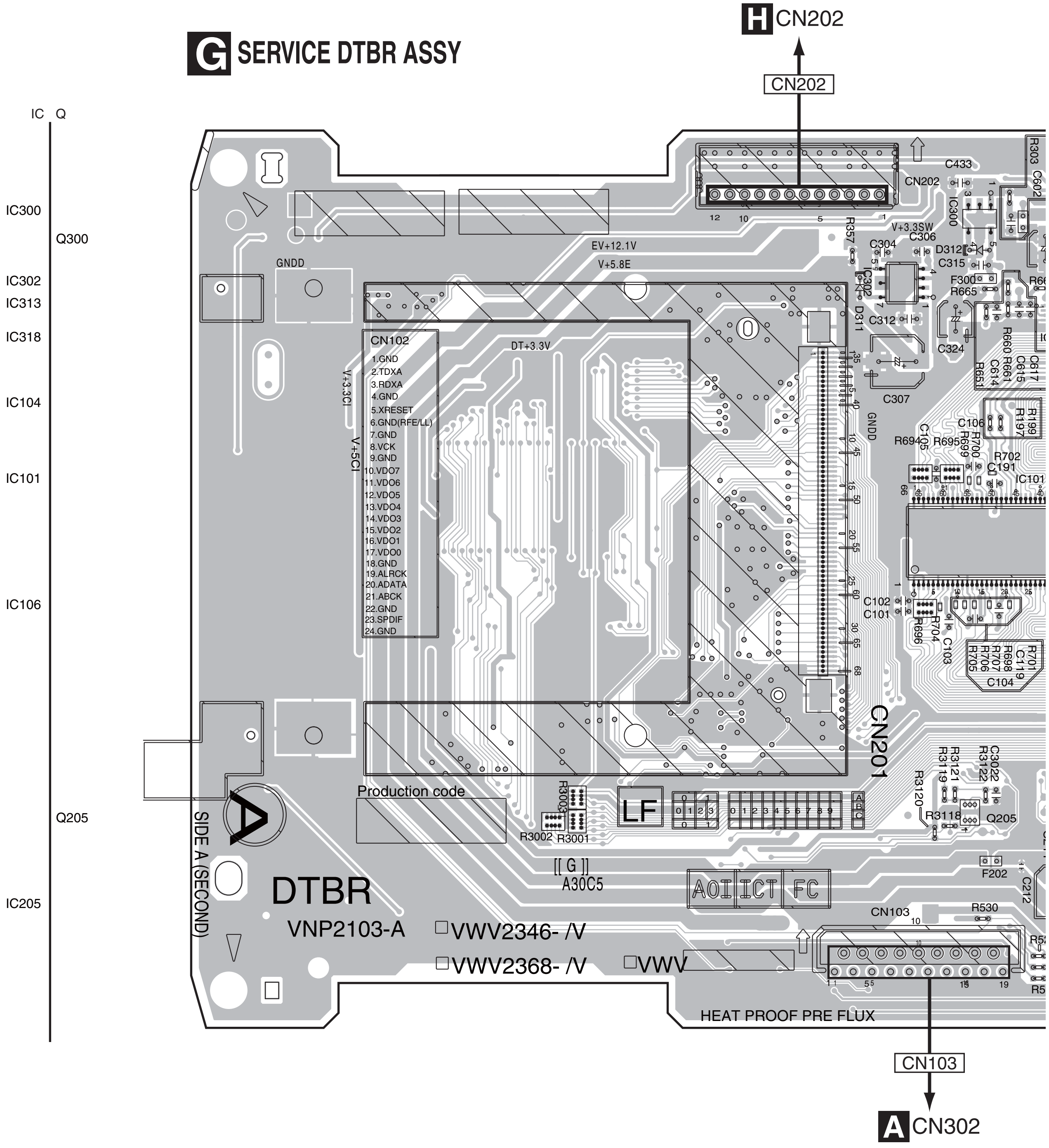

F SERVICE DVUB ASSY
90
80
70
60
50
40
30
20
10
0
Y
200
210
220
230
240
X
YWM
YWM1001-
YWM1002-
YWM1011-
R911
R912
L902
JA901
CN901
R908
LF
L901
CN901
D CN5101
R
DVUB
L903
JA902
CN902
[G]
A30C5/C7
CN902
D CN5201
L906
C906
PC
JA903
(YNP1005-B)

SIDE B


F SERVICE DVUB ASSY
90
80
70
60
50
40
30
20
10
0
Y
240
230
220
210
200
X
C908
R904
R903
C901
C902
R913
C904
R902
R901
C903
C907
R910
VA901
L904
R905
R906
VA902
C905
VA903
LF
L905
R909
R907
VA904
VA905
VA906
L907
L908
(YNP1005-B)

11.7 SERVICE DTBR ASSY

SIDE A


H CN202
G SERVICE DTBR ASSY
CN202
IC Q
IC300
Q300
IC302
IC313
IC318
IC104
IC101
IC106
Q205
IC205
GNDD
EV+12.1V
V+5.8E
V+3.3SW
DT+3.3V
CN102
1.GND
2.TDXA
3.RDXA
4.GND
5.XRESET
6.GND(RFE/LL)
7.GND
8.VCK
9.GND
10.VDO7
11.VDO6
12.VDO5
13.VDO4
14.VDO3
15.VDO2
16.VDO1
17.VDO0
18.GND
19.ALRCK
20.ADATA
21.ABCK
22.GND
23.SPDIF
24.GND
V+3.3CI
V+5CI
CN201
GNDD
R357
C433
C304
C306
D312
C315
C302
D311
F300
R665
C312
C324
C307
R660
R661
C614
C615
C617
R651
C106
R199
R197
R694
R695
R699
R700
C105
R702
C191
IC101
C102
C101
R696
R704
C103
R701
C119
R698
R707
R706
R705
C104
R3121
R3119
R3122
C3022
R3120
R3118
Q205
F202
C212
R530
CN103
Production code
R3003
R3002
R3001
LF
[[G]]
A30C5
AOI ICT FC
SIDE A (SECOND)
DTBR
VNP2103-A
VWV2346- /V
VWV2368- /V
VWV
HEAT PROOF PRE FLUX
CN103
A CN302

SIDE A

A

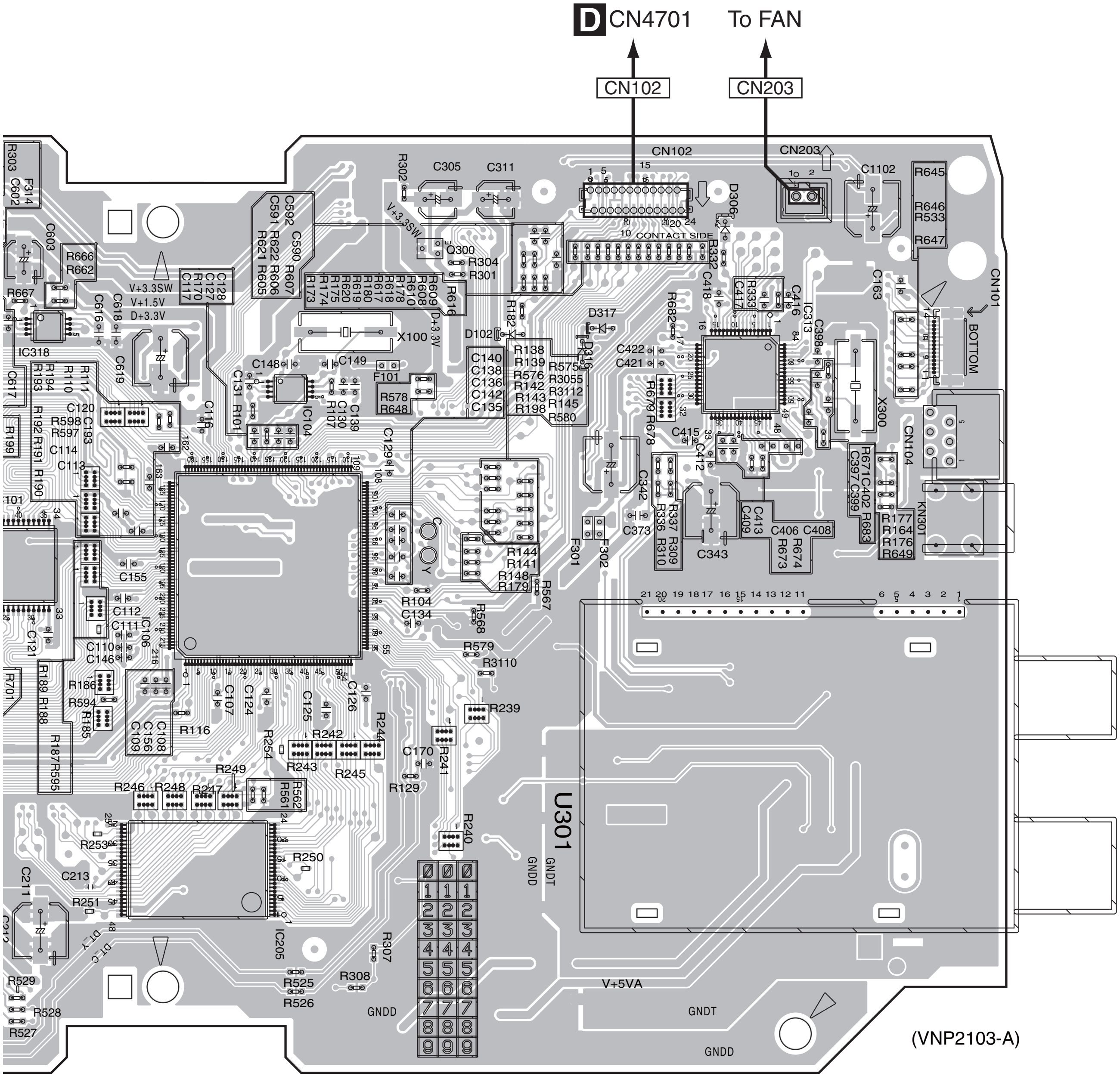
B

C

D

E

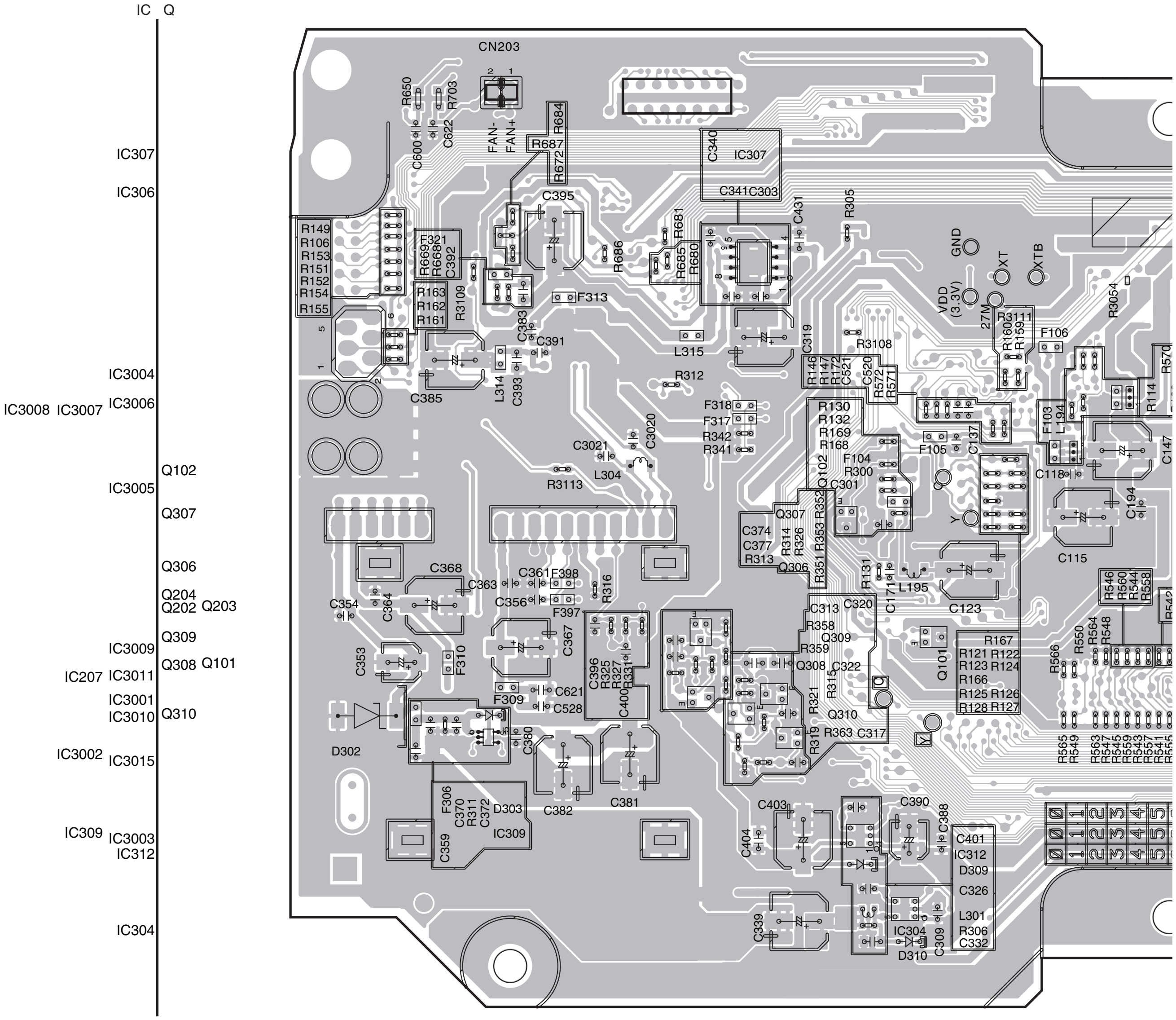
F


D CN4701
To FAN
CN102
CN203
CN102
CN203
C1102
R645
R646
R533
R647
C305
C311
R302
V+3.3SW
Q300
R304
R301
D306
CONTACT SIDE
R332
C418
R333
C417
C416
IC313
C398
C163
CN101
BOTTOM
X300
CN104
R303
C602
F314
C603
R666
R662
R667
C616
C618
V+3.3SW
V+1.5V
D+3.3V
C128
C127
C117
R170
C592
C591
C590
R607
R622
R606
R621
R605
R173
R174
R175
R620
R619
R180
R617
R178
R618
R610
R608
R609
R616
D+3.3V
X100
R182
D102
D317
D316
IC318
C619
C617
R194
R193
R111
R110
C148
C149
C131
R101
F101
R578
R648
C140
C138
C136
C142
C135
R138
R139
R576
R142
R143
R198
R575
R3055
R3112
R145
R580
R682
C422
C421
R679
R678
C415
C412
C120
R598
R597
C193
C114
C113
R199
R192
R191
R190
C116
C104
R107
C130
C139
C129
R671
C402
R683
C397
C399
KN301
R177
R164
R176
R649
R337
R309
R336
R310
C342
C373
F301
F302
C343
C413
C409
C406
C408
R674
R673
R144
R141
R148
R179
R567
R104
C134
R568
C155
C112
C111
C106
C110
C146
C121
R701
R189
R188
R186
R594
R185
R187
R595
C108
C156
C109
R116
C107
C124
C125
C126
R244
R242
R254
R243
R245
C170
R241
R129
R239
R579
R3110
R249
R246
R248
R247
R561
R562
R240
U301
GNDT
GNDD
R253
R250
C213
C211
C212
R251
IC205
DT_Y
DT_C
R529
R528
R527
R525
R526
R308
R307
GNDD
V+5VA
GNDT
GNDD
21 20 19 18 17 16 15 14 13 12 11
6 5 4 3 2 1
(VNP2103-A)

SIDE B

G SERVICE DTBR ASSY

CN203 CN102


IC
Q
IC307
IC306
IC3004
IC3008
IC3007
IC3006
Q102
IC3005
Q307
Q306
Q204
Q202
Q203
IC3009
Q309
IC207
IC3011
Q308
Q101
IC3001
IC3010
Q310
IC3002
IC3015
IC309
IC3003
IC312
IC304
CN203
R650
R703
C622
C600
FAN-
FAN+
R684
R687
R672
C340
IC307
C341
C303
C395
R149
R106
R153
R151
R152
R154
R155
F321
R669
R668
C392
R163
R162
R161
R3109
R686
R681
R685
R680
C431
R305
GND
XT
XTB
VDD (3.3V)
27M
F313
C383
C391
L315
C319
R3111
R160
R159
F106
R3054
R570
R3108
R146
R147
R172
C521
C520
R572
R571
C385
L314
C393
R312
F318
F317
R342
R341
C3020
C3021
L304
R3113
R130
R132
R169
R168
F104
R300
C301
Q102
F105
C137
F103
L194
R114
C147
C118
C194
C374
C377
R313
R314
R326
R353
R352
Q307
Q306
R351
R131
C171
L195
C123
C115
C368
C363
C361
F398
R316
C356
F397
C354
C364
C313
C320
R358
R359
Q309
Q308
C322
R315
R321
Q310
R363
C317
R319
R167
R121
R122
R123
R124
R166
R125
R126
R128
R127
Q101
R546
R560
R544
R558
R542
R566
R550
R564
R548
C353
F310
C367
C396
R325
R327
R331
C400
F309
C621
C528
D302
C380
F306
C370
R311
C372
D303
IC309
C359
C382
C381
R565
R549
R563
R547
R545
R559
R543
R557
R541
C403
C390
C388
C404
C401
IC312
D309
C326
L301
R306
C332
C339
IC304
D310
C309

SIDE B

A

B

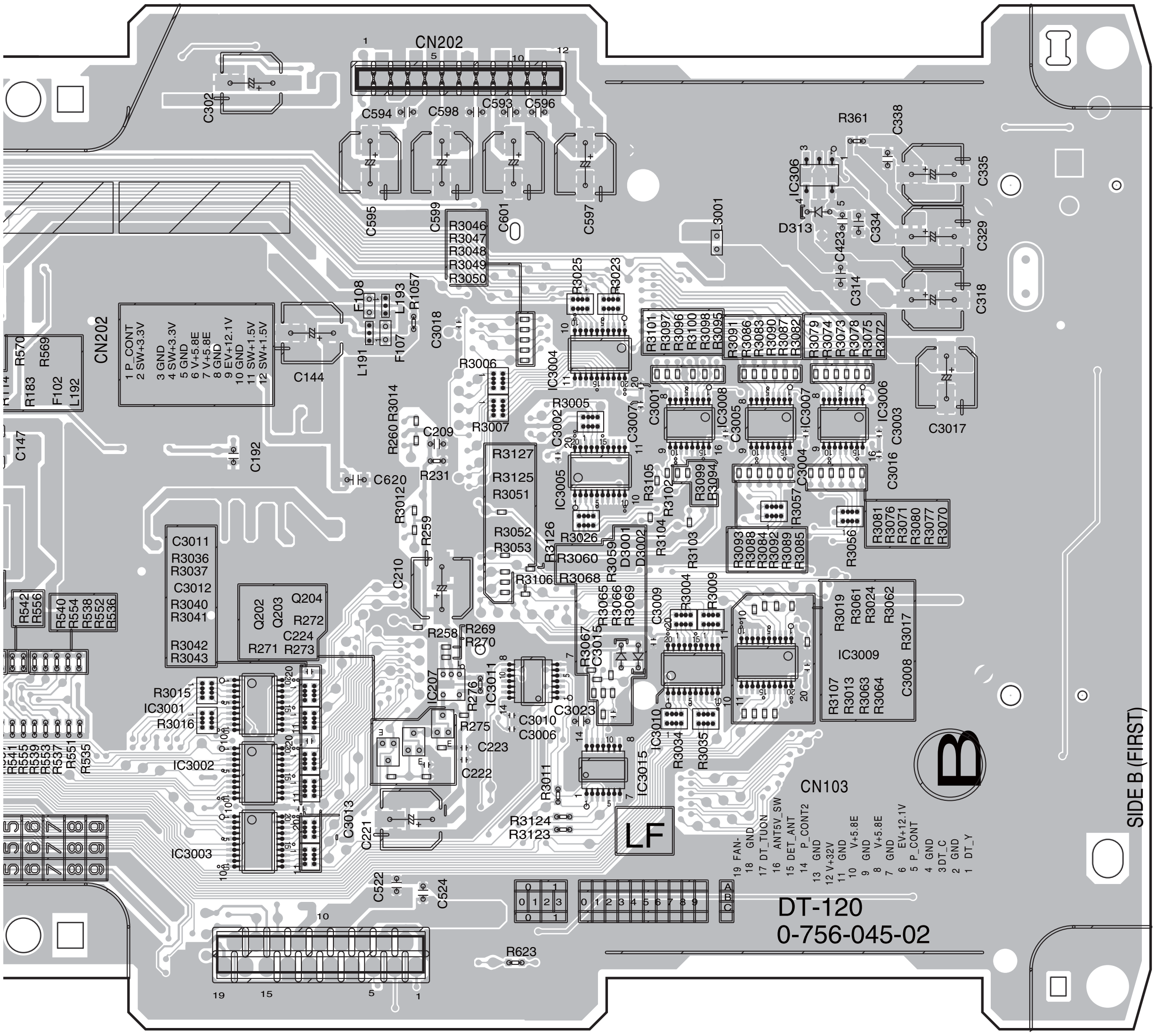
C

D

E

F

CN202


CN202
1
5
10
12
C302
C594
C598
C593
C596
C595
C599
C601
C597
R3046
R3047
R3048
R3049
R3050
R361
C338
IC306
C335
D313
C334
C423
C329
C314
C318
L3001
R3025
R3023
F108
L193
R1057
C3018
L191
F107
C144
1 P_CONT
2 SW+3.3V
3 GND
4 SW+3.3V
5 GND
6 V+5.8E
7 V+5.8E
8 GND
9 EV+12.1V
10 GND
11 SW+1.5V
12 SW+1.5V
R570
R569
R183
F102
L192
C147
C192
C620
R3006
R3007
IC3004
R3101
R3097
R3096
R3100
R3098
R3095
R3091
R3086
R3083
R3090
R3087
R3082
R3079
R3074
R3073
R3078
R3075
R3072
IC3008
IC3007
IC3006
C3001
C3005
C3003
C3004
C3016
C3017
R3005
C3002
C3007
R260
R3014
C209
R231
R3127
R3125
R3051
IC3005
R3105
R3102
R3099
R3094
R3057
R3056
R3081
R3076
R3071
R3080
R3077
R3070
R3012
R259
R3052
R3053
R3126
R3026
R3060
R3059
R3068
D3001
D3002
R3104
R3103
R3093
R3088
R3084
R3092
R3089
R3085
C3011
R3036
R3037
C3012
R3040
R3041
R3042
R3043
Q202
Q203
Q204
R272
C224
R271
R273
R542
R556
R540
R554
R538
R552
R536
C210
R258
R269
R270
R3106
R3065
R3066
R3069
C3009
R3004
R3009
R3067
C3015
R3019
R3061
R3024
R3062
IC3009
R3017
C3008
R3107
R3013
R3063
R3064
R3015
IC3001
R3016
C207
R276
IC3011
C3010
C3006
C3023
R275
C223
C222
IC3010
R3034
R3035
IC3015
R541
R555
R539
R553
R537
R551
R535
IC3002
R3011
C221
C3013
R3124
R3123
LF
CN103
19 FAN-
18 GND
17 DT_TUON
16 ANT5V_SW
15 DET_ANT
14 P_CONT2
13 GND
12 V+32V
11 GND
10 V+5.8E
9 GND
8 V+5.8E
7 GND
6 EV+12.1V
5 P_CONT
4 GND
3 DT_C
2 GND
1 DT_Y
IC3003
C522
C524
DT-120
0-756-045-02
B
SIDE B (FIRST)
R623
10
19
15
5
1

CN103

(VNP2103-A)

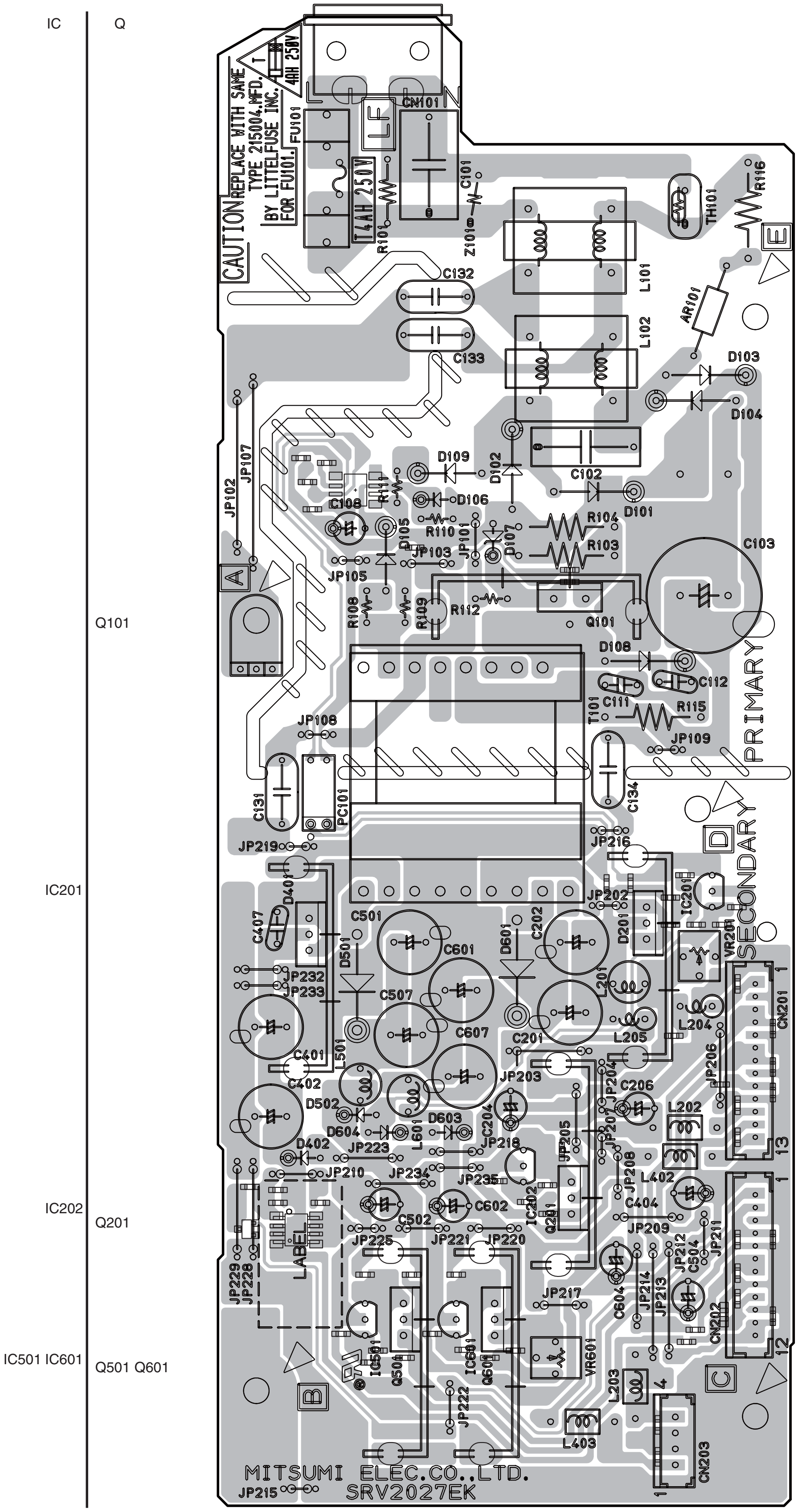
G

11.8 POWER SUPPLY ASSY

SIDE A

SIDE A

H POWER SUPPLY ASSY

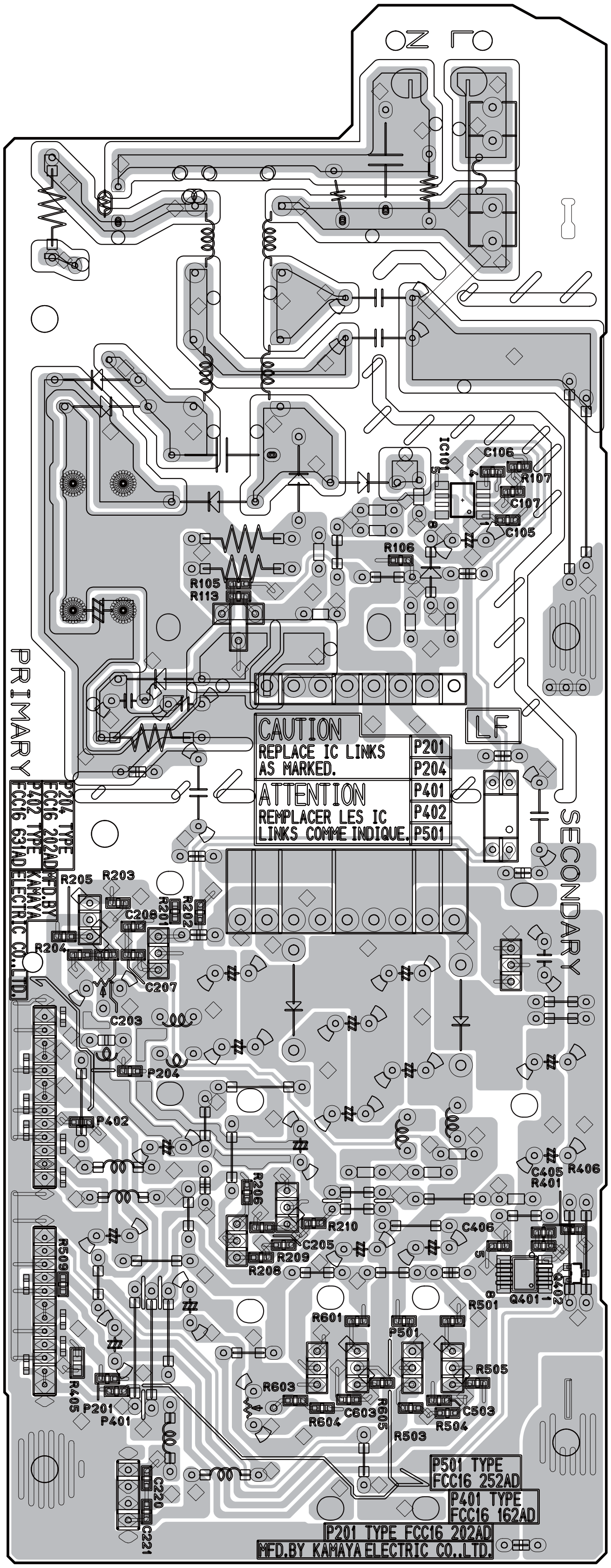

IC
Q
Q101
IC201
IC202
Q201
IC501 IC601
Q501 Q601
CAUTION
REPLACE WITH SAME
TYPE 215004.MFD.
BY LITTELFUSE INC.
FOR FU101.
FU101
T 4AH 250V
T4AH 250V
CN101
LF
C101
R101
Z101
C132
C133
L101
L102
TH101
R116
AR101
D103
D104
C102
D101
D102
D109
D106
R111
C108
D105
R110
JP101
D107
R104
R103
JP103
JP105
JP102
JP107
C103
R108
R109
R112
Q101
D108
C112
C111
R115
T101
JP109
PRIMARY
JP108
C131
PC101
C134
SECONDARY
JP219
JP216
D401
C407
C501
D501
C601
D601
C202
JP202
IC201
D201
VR201
CN201
JP232
JP233
C507
C607
C201
L201
L205
L204
C401
C402
L501
JP203
JP204
C206
JP206
D502
D604
D603
L601
C204
L202
D402
JP223
JP218
JP205
JP207
JP208
JP210
JP234
JP235
L402
C404
C502
C602
IC202
Q201
JP209
JP211
JP212
C504
JP225
JP221
JP220
JP217
LABEL
JP229
JP228
C604
JP214
JP213
CN202
IC501
Q501
IC601
Q601
VR601
L203
JP222
L403
CN203
MITSUMI ELEC.CO.,LTD.
SRV2027EK
JP215
A
B
C
D
E
1
4
12
13

H POWER SUPPLY ASSY

IC | Q

IC101

Q402
Q401


PRIMARY
SECONDARY
LF
CAUTION
REPLACE IC LINKS
AS MARKED.
ATTENTION
REMPLACER LES IC
LINKS COMME INDIQUE.
P201
P204
P401
P402
P501
P204 TYPE
FCC16 202AD
P402 TYPE
FCC16 631AD
MFD.BY KAMAYA ELECTRIC CO.,LTD.
IC101
C106
R107
C107
C105
R106
R105
R113
R205
R203
C208
R201
R202
R204
C207
C203
P204
P402
R206
R210
C205
R209
R208
C405
R406
R401
C406
R501
Q401
Q402
R509
R601
P501
R505
R603
C603
R605
C503
R604
R503
R504
R405
P201
P401
C220
C221
P501 TYPE
FCC16 252AD
P401 TYPE
FCC16 162AD
P201 TYPE FCC16 202AD
MFD.BY KAMAYA ELECTRIC CO.,LTD.

12. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 x 10^1 → 561 .... RD1/4PU561J
47k Ω → 47 x 10^3 → 473 .... RD1/4PU473J
0.5 Ω → R50 .... RN2HR50K
1 Ω → 1R0 .... RS1P1R0K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62k Ω → 562 x 10^1 → 5621 .... RN1/4PC5621F

● *Meaning of the figures and others in the parentheses in the parts list.*
Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.
IC 301 (A, 91, 111) IC NJM2068V

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
		1..ETAB ASSY (DVR-LX61D only)	VWV2344
NSP		1..DTBR ASSY	VWV2346
		2..SERVICE DTBR ASSY	VXX3319
NSP		1..TUJB ASSY	YWM1001
		2..SERVICE DVUB ASSY	YXX1001
		2..SERVICE TUSB ASSY	YXX1002
NSP		1..FLKB ASSY (DVR-LX61D)	YWM1004
NSP		1..FLKB ASSY (DVR-560HX-S,DVR-560HX-K)	YWM1003
		2..SERVICE FLKY ASSY (DVR-LX61D)	YXX1006
		2..SERVICE FLKY ASSY (DVR-560HX-S,DVR-560HX-K)	YXX1005
		2..SERVICE FRJB ASSY (DVR-LX61D)	YXX1027
		2..SERVICE FRJB ASSY (DVR-560HX-S,DVR-560HX-K)	YXX1004
NSP		1..SERVICE LOADER MAIN (DVR-LX61D)	VXU1016
NSP		1..SERVICE LOADER MAIN (DVR-560HX-S,DVR-560HX-K)	VXU1015
		2..SERVICE MAIN ASSY (DVR-LX61D)	VXX3320
		2..SERVICE MAIN ASSY (DVR-560HX-S,DVR-560HX-K)	VXX3321
NSP		2..MAIN ASSY (DVR-LX61D)	VWV2342
NSP		2..MAIN ASSY (DVR-560HX-S,DVR-560HX-K)	VWV2362
⚠		1..POWER SUPPLY ASSY	VWR1405

A SERVICE TUSB ASSY

MISCELLANEOUS

Mark	No.	Description	Part No.
	IC 101	(A,201,131) MICROCOMPUTER IC	PMC026A8
	IC 102	(A,225,166) RESET IC	BD4846G
	IC 103	(A,177,132) RESET IC	BU4220G
	IC 104	(A,175,152) IC	TC7MB3257FK
⚠	IC 150	(B,229,147) FUSE	CEK1278
⚠	IC 317	(B,170,52) FUSE	CEK1278
	IC 401	(A,124,124) IC FOR DVD REC	HA118326APFR
	IC 402	(A,149,100) OP-AMP IC	BA4560RF
	IC 403	(A,123,93) VIDEO SW IC	MM1503XN
	IC 406	(B,67,46) IC	TC7S66FU
	IC 601	(A,118,174) MULTI SOUND DECODER	MSP3417G
	Q 101	(A,218,157) DIGITAL TRANSISTOR	DTC124EUA
	Q 102	(A,184,154) TRANSISTOR	2SC4081
	Q 103	(A,176,121) TRANSISTOR	UMD2N
	Q 104	(A,192,110) TRANSISTOR	UMD2N
	Q 105	(A,189,109) TRANSISTOR	2SD2114K
	Q 108	(A,210,106) DIGITAL TRANSISTOR	DTC124EUA
	Q 110	(A,194,103) DIGITAL TRANSISTOR	DTA143EUA
	Q 111	(A,191,95) TRANSISTOR	2SC4081
	Q 112	(A,196,100) TRANSISTOR	2SC4081
	Q 201	(B,142,49) TRANSISTOR	2SD2114K
	Q 301	(A,155,170) TRANSISTOR	UMD2N
	Q 302	(B,158,171) TRANSISTOR	2SC4081
	Q 303	(A,153,183) TRANSISTOR	UMD2N
	Q 304	(A,159,180) TRANSISTOR	2SD2153
	Q 305	(B,186,59) TRANSISTOR	UMD2N
	Q 306	(B,193,63) TRANSISTOR	2SC2411K
	Q 307	(B,177,57) TRANSISTOR	UMD2N
	Q 308	(B,179,71) TRANSISTOR	2SC2411K
	Q 309	(B,162,53) TRANSISTOR	2SC5876
	Q 310	(B,162,61) TRANSISTOR	2SC4081
	Q 311	(B,169,67) CHIP TRANSISTOR	HN1A01FU
	Q 401	(A,143,148) DIGITAL TRANSISTOR	DTC124EUA
	Q 402	(A,109,101) TRANSISTOR	2SD2114K
	Q 403	(A,120,99) TRANSISTOR	2SA1576A
	Q 404	(A,44,147) TRANSISTOR	UMD2N
	Q 406	(A,42,137) TRANSISTOR	2SD2114K
	Q 407	(A,42,154) TRANSISTOR	2SD2114K
	Q 408	(A,110,94) TRANSISTOR	2SC4081
	Q 409	(A,116,87) TRANSISTOR	2SC4081
	Q 410	(A,115,92) TRANSISTOR	2SC4081
	Q 411	(A,110,90) TRANSISTOR	UMD2N
	Q 412	(A,122,84) DIGITAL TRANSISTOR	DTC124EUA
	Q 413	(A,117,97) DIGITAL TRANSISTOR	DTC124EUA
	Q 501	(B,84,85) TRANSISTOR	UMH1N
	Q 502	(B,75,75) TRANSISTOR	2SA1576A
	Q 503	(B,87,62) TRANSISTOR	2SC4081
	Q 504	(B,84,62) TRANSISTOR	2SC4081

Mark	No.	Description	Part No.
Q	505	(B,81,56) TRANSISTOR	2SC4081
Q	506	(A,57,81) DUAL CHIP TRANSISTOR	HN1C03FU
Q	507	(A,58,94) DUAL CHIP TRANSISTOR	HN1C03FU
Q	508	(B,91,119) CHIP DIGITAL TRANS.	DTA124EUA
Q	509	(B,65,55) TRANSISTOR	2SC4081
Q	510	(B,67,60) TRANSISTOR	2SC4081
Q	511	(B,67,67) TRANSISTOR	2SA1576A
Q	601	(B,67,172) TRANSISTOR	2SA1576A
Q	602	(B,59,165) TRANSISTOR	2SA1576A
Q	604	(A,139,174) TRANSISTOR	2SA1576A
Q	605	(A,139,169) TRANSISTOR	2SA1576A
Q	606	(B,84,181) TRANSISTOR	2SC4081
Q	751	(B,43,37) TRANSISTOR	2SA1576A
Q	752	(B,51,41) TRANSISTOR	2SC4081
D	101	(A,221,164) DIODE	1SS355
D	102	(A,218,163) DIODE	1SS355
D	103	(A,186,59) DIODE	1SS355
D	104	(B,167,176) DIODE	1SR154-400
D	106	(A,176,109) DIODE	1SS355
D	108	(A,179,125) DIODE	DAP202U
D	201	(B,144,53) DIODE	1SS355
D	301	(B,173,50) DIODE	UDZS15(B)
D	302	(B,175,62) DIODE	UDZS9R1(B)
D	303	(B,164,55) DIODE	1SS355
D	304	(B,179,62) DIODE	1SS355
D	401	(A,135,81) DIODE	UDZS11(B)
D	402	(A,101,150) DIODE	UDZS6R8(B)
D	418	(B,48,165) DIODE	1SS355
D	419	(A,44,150) DIODE	1SS355
D	420	(B,116,91) DIODE	DAP202U
D	501	(B,79,85) DIODE	UDZS5R1(B)
D	502	(B,81,85) DIODE	UDZS5R1(B)
D	503	(B,45,65) DIODE	UMZ6R8N
D	504	(B,46,61) DIODE	UMZ6R8N
D	505	(B,45,56) DIODE	UMZ6R8N
D	506	(B,42,46) DIODE	UMZ6R8N
D	507	(B,45,51) DIODE	UMZ6R8N
D	508	(B,42,92) DIODE	UMZ6R8N
D	509	(B,46,87) DIODE	UMZ6R8N
D	510	(B,45,82) DIODE	UMZ6R8N
D	511	(B,45,76) DIODE	UMZ6R8N
D	512	(B,45,71) DIODE	UMZ6R8N
D	513	(A,46,65) DIODE	UMZ6R8N
D	514	(A,44,59) DIODE	UMZ6R8N
D	515	(A,44,49) DIODE	UMZ6R8N
D	516	(A,44,55) DIODE	UMZ6R8N
D	517	(A,44,52) DIODE	UMZ6R8N
D	518	(A,44,72) DIODE	UMZ6R8N
D	519	(A,45,78) DIODE	UMZ6R8N
D	520	(A,46,83) DIODE	UMZ6R8N
D	521	(A,44,90) DIODE	UMZ6R8N
D	522	(A,41,101) DIODE	UMZ6R8N
D	523	(B,72,45) DIODE	DAN217U
D	524	(B,63,44) DIODE	DAN217U
D	526	(B,71,70) DIODE	1SS355
D	527	(B,80,48) DIODE	1SS355
D	528	(B,87,119) DIODE	1SS355
D	701	(B,55,34) DIODE	1SS355
L	102	(A,200,88) AXIAL INDUCTOR	LAU470J

Mark	No.	Description	Part No.
L	201	(A,147,57) RADIAL INDUCTOR	ATH1109
L	303	(B,161,175) INDUCTOR	CTF1399
L	304	(A,167,57) RADIAL INDUCTOR	LFCA331J
L	305	(B,158,44) INDUCTOR	CTF1399
L	401	(B,42,135) INDUCTOR	CTF1388
L	402	(B,42,150) INDUCTOR	CTF1388
L	403	(B,37,168) INDUCTOR	CTF1388
L	404	(B,34,142) INDUCTOR	CTF1388
L	405	(B,34,156) INDUCTOR	CTF1388
L	501	(B,28,94) CHIP COIL	LCYA5R6J2520
L	502	(B,34,92) CHIP COIL	LCYA5R6J2520
L	503	(A,48,52) INDUCTOR	CTF1389
L	504	(A,48,49) INDUCTOR	CTF1389
L	505	(A,47,55) INDUCTOR	CTF1389
L	506	(A,47,59) INDUCTOR	CTF1389
L	507	(B,47,47) INDUCTOR	CTF1389
L	508	(B,48,60) INDUCTOR	CTF1389
L	509	(B,48,52) INDUCTOR	CTF1389
L	510	(A,50,60) INDUCTOR	CTF1389
L	601	(B,31,173) INDUCTOR	CTF1399
L	602	(B,86,175) INDUCTOR	CTF1399
L	604	(B,42,173) INDUCTOR	CTF1306
L	605	(B,46,173) INDUCTOR	CTF1306
L	606	(B,123,168) INDUCTOR	CTF1399
L	607	(B,89,175) COIL	LCYA101J2520
L	608	(B,146,178) INDUCTOR	CTF1399
L	609	(B,91,180) INDUCTOR	LCYA100J2520
L	751	(B,33,37) INDUCTOR	CTF1306
JA	402	(A,17,146) 9P PIN JACK	VKB1250
JA	501	(A,18,70) RGB CONNECTOR	VKB1249
JA	701	(A,18,25) JACK	RKN1004
JA	751	(A,18,36) JACK	RKN1004
KN	101	(A,131,184) WRAPPING TERMINAL	VNF1084
KN	102	(A,192,46) WRAPPING TERMINAL	VNF1084
X	101	(A,204,157) CRYSTAL OSCILLATOR	CSS1653
X	102	(A,210,156) CRYSTAL RESONATOR (32 KHz)	VSS1197
X	601	(A,100,173) CERAMIC RESONATOR (18.432 MHZ)	VSS1189
CN	101	(A,35,23) 40P CONNECTOR	VKN2007
CN	103	(A,235,159) 9P CONNECTOR	VKN2015
CN	105	(A,232,148) CONNECTOR	HLEM17S-1
CN	106	(A,238,107) CONNECTOR	HLEM11S-1
CN	302	(A,150,35) 19P CONNECTOR	52044-1945
U	601	(A,26,178) TV TUNER PACK	VXF1146
	401	2P 4PIN MINIDIN(S)	AKP1234

RESISTORS

Mark	No.	Description	Part No.
R	101	(A,187,125)	RS1/16S101J
R	102	(B,184,121)	RS1/16S101J
R	103	(A,187,118)	RS1/16S101J
R	104	(A,224,158)	RS1/16S473J
R	105	(A,215,149)	RS1/16S101J
R	106	(A,221,158)	RS1/16S0R0J
R	107	(A,224,159)	RS1/16S103J
R	109	(A,212,144)	RS1/16S331J
R	110	(A,211,144)	RS1/16S101J
R	111	(A,212,149)	RS1/16S101J
R	112	(A,222,161)	RS1/16S103J
R	113	(A,219,161)	RS1/16S0R0J
R	116	(B,208,153)	RS1/16S0R0J

Mark	No.		Description	Part No.
R	117	(A,204,145)		RS1/16S105J
R	118	(B,201,150)		RS1/16S0R0J
R	119	(A,192,167)	CARBON FILM RESISTOR	RD1/4PU153J
R	123	(A,197,148)		RS1/16S101J
R	124	(A,195,148)		RS1/16S101J
R	125	(A,196,83)		RS1/16S101J
R	126	(A,192,148)		RS1/16S101J
R	127	(A,192,151)		RS1/16S103J
R	128	(B,213,134)		RS1/16S392J
R	129	(A,194,148)		RS1/16S101J
R	130	(B,235,155)		RS1/16S0R0J
R	131	(A,189,154)		RS1/16S472J
R	132	(A,190,149)		RS1/16S682J
R	134	(A,187,148)		RS1/16S102J
R	135	(A,185,152)		RS1/16S104J
R	136	(A,189,158)		RS1/16S102J
R	137	(A,186,155)		RS1/16S101J
R	138	(A,183,160)		RS1/16S471J
R	139	(A,184,149)		RS1/16S682J
R	140	(A,182,148)		RS1/16S470J
R	141	(A,182,151)		RS1/16S682J
R	142	(A,181,151)		RS1/16S470J
R	143	(A,183,145)		RS1/16S101J
R	144	(A,184,140)		RS1/16S0R0J
R	145	(A,180,131)		RS1/16S103J
R	146	(A,187,126)		RS1/16S101J
R	147	(A,191,112)		RS1/16S102J
R	148	(A,184,126)		RS1/16S101J
R	149	(A,188,119)		RS1/16S0R0J
R	150	(A,190,117)		RS1/16S0R0J
R	151	(A,194,117)		RS1/16S0R0J
R	152	(A,184,127)		RS1/16S0R0J
R	153	(A,198,113)		RS1/16S101J
R	154	(B,199,113)		RS1/16S101J
R	155	(A,198,83)		RS1/16S101J
R	156	(A,201,116)		RS1/16S101J
R	157	(A,202,118)		RS1/16S104J
R	158	(A,202,119)		RS1/16S104J
R	159	(A,205,117)		RS1/16S0R0J
R	160	(A,206,114)		RS1/16S101J
R	161	(A,201,108)		RS1/16S0R0J
R	165	(A,206,117)		RS1/16S0R0J
R	167	(A,207,114)		RS1/16S101J
R	168	(A,211,112)		RS1/16S181J
R	169	(A,207,101)		RS1/16S103J
R	171	(A,215,114)		RS1/16S101J
R	172	(A,216,114)		RS1/16S101J
R	173	(A,218,113)		RS1/16S104J
R	174	(A,217,111)		RS1/16S104J
R	175	(A,219,113)		RS1/16S331J
R	176	(A,220,124)		RS1/16S102J
R	177	(A,222,126)		RS1/16S101J
R	178	(A,219,127)		RS1/16S101J
R	179	(A,222,128)		RS1/16S101J
R	180	(A,221,132)		RS1/16S101J
R	181	(A,217,133)		RS1/16S101J
R	182	(A,220,134)		RS1/16S101J
R	183	(A,217,134)		RS1/16S101J
R	184	(A,220,135)		RS1/16S101J

Mark	No.		Description	Part No.
R	185	(A,220,137)		RS1/16S101J
R	188	(A,221,140)		RS1/16S331J
R	189	(A,221,142)		RS1/16S471J
R	193	(B,230,171)		RS1/16S104J
R	194	(B,236,171)		RS1/16S104J
R	195	(B,228,171)		RS1/16S104J
R	196	(B,238,171)		RS1/16S101J
R	197	(A,52,22)		RS1/16S0R0J
R	199	(A,209,110)		RS1/16S101J
R	200	(A,221,144)		RS1/16S101J
R	201	(A,187,128)		RS1/16S0R0J
R	202	(A,184,138)		RS1/16S0R0J
R	203	(A,181,139)		RS1/16S0R0J
R	204	(A,181,137)		RS1/16S101J
R	205	(A,185,136)		RS1/16S101J
R	207	(A,197,104)		RS1/16S471J
R	208	(A,197,106)		RS1/16S0R0J
R	209	(A,191,101)		RS1/16S332J
R	210	(A,197,108)		RS1/16S8200F
R	214	(A,189,91)		RS1/16S332J
R	215	(A,192,91)		RS1/16S681J
R	216	(A,194,94)	CHIP RESISTOR	RS1/16S7500F
R	217	(A,196,93)		RS1/16S102J
R	218	(A,155,48)		RS1/10S0R0J
R	219	(B,141,62)		RS1/16S332J
R	220	(B,137,62)		RS1/16S222J
R	221	(A,178,145)		RS1/16S101J
R	222	(A,181,141)		RS1/16S0R0J
R	223	(A,174,157)		RS1/16S0R0J
R	224	(A,177,156)		RS1/16S0R0J
R	228	(A,196,160)		RS1/16S0R0J
R	233	(B,218,89)		RS1/16S104J
R	251	(B,148,46)		RS1/10S0R0J
R	301	(A,143,80)		RS1/10S0R0J
R	302	(B,187,50)		RS1/10S0R0J
R	303	(B,185,50)		RS1/10S0R0J
R	304	(B,159,176)		RS1/16S101J
R	305	(B,158,180)		RS1/16S330J
R	306	(B,188,56)		RS1/16S330J
R	307	(A,158,83)		RS1/10S0R0J
R	308	(A,161,83)		RS1/10S0R0J
R	309	(B,179,52)		RS1/16S152J
R	310	(B,160,57)		RS1/16S472J
R	311	(B,164,66)		RS1/16S821J
R	312	(B,162,65)		RS1/16S103J
R	313	(B,170,60)		RS1/16S184J
R	314	(A,174,77)		RS1/16S223J
R	315	(B,168,60)		RS1/16S1003F
R	316	(B,173,60)		RS1/16S2202F
R	318	(B,160,180)		RS1/16S0R0J
R	401	(B,137,96)		RS1/10S0R0J
R	402	(A,138,102)		RS1/16S561J
R	403	(A,136,103)		RS1/16S561J
R	404	(A,133,89)		RS1/10S0R0J
R	407	(A,97,126)		RS1/10S0R0J
R	408	(A,148,115)		RS1/16S471J
R	410	(A,150,110)		RS1/16S471J
R	412	(A,148,112)		RS1/16S471J
R	413	(A,148,119)		RS1/16S471J

Mark	No.	Description	Part No.
R	414	(A,145,124)	RS1/16S471J
R	415	(A,145,126)	RS1/16S471J
R	416	(A,146,127)	RS1/16S471J
R	417	(A,146,129)	RS1/16S471J
R	418	(A,146,131)	RS1/16S471J
R	419	(A,146,133)	RS1/16S471J
R	420	(B,116,133) CHIP RESISTOR	RS1/16S335J
R	421	(A,124,136) CHIP RESISTOR	RS1/16S335J
R	422	(A,140,113)	RS1/16S103J
R	425	(B,126,139)	RS1/16S104J
R	428	(A,129,139)	RS1/16S0R0J
R	429	(A,139,142)	RS1/16S105J
R	430	(A,133,140)	RS1/16S105J
R	431	(A,124,141)	RS1/16S105J
R	432	(A,122,144)	RS1/16S105J
R	433	(A,106,110)	RS1/16S105J
R	435	(A,105,115)	RS1/16S105J
R	436	(A,94,132)	RS1/16S101J
R	437	(A,96,132)	RS1/16S101J
R	438	(A,96,143)	RS1/10S0R0J
R	439	(B,113,132)	RS1/16S185J
R	440	(A,116,85)	RS1/16S471J
R	444	(A,130,147)	RS1/10S75R0F
R	445	(A,133,146)	RS1/10S75R0F
R	447	(A,122,149)	RS1/10S75R0F
R	448	(A,100,142)	RS1/10S0R0J
R	449	(A,108,147)	RS1/10S75R0F
R	453	(A,155,102)	RS1/16S8201F
R	454	(A,136,109)	RS1/16S1002F
R	455	(A,121,103)	RS1/16S470J
R	458	(A,121,109)	RS1/16S471J
R	459	(A,124,100)	RS1/10S75R0F
R	461	(A,115,95)	RS1/16S681J
R	462	(A,138,107)	RS1/16S1002F
R	463	(A,143,102)	RS1/16S8201F
R	465	(A,116,100)	RS1/16S471J
R	467	(B,44,124)	RS1/10S75R0F
R	468	(B,43,113) CHIP TYPE RESISTOR	RS1/10S68R0F
R	469	(B,40,113)	RS1/10S3R9J
R	470	(B,38,117) CHIP TYPE RESISTOR	RS1/10S68R0F
R	471	(B,37,119)	RS1/10S3R9J
R	472	(B,36,160) CHIP TYPE RESISTOR	RS1/10S68R0F
R	473	(B,33,160)	RS1/10S3R9J
R	474	(B,42,147) CHIP TYPE RESISTOR	RS1/10S68R0F
R	475	(B,34,146)	RS1/10S3R9J
R	476	(B,42,132) CHIP TYPE RESISTOR	RS1/10S68R0F
R	477	(B,35,132)	RS1/10S3R9J
R	478	(B,42,129) CHIP TYPE RESISTOR	RS1/10S68R0F
R	479	(B,43,139)	RS1/16S471J
R	480	(B,35,129)	RS1/10S3R9J
R	481	(B,44,153)	RS1/16S104J
R	484	(A,40,141)	RS1/16S102J
R	485	(B,50,138)	RS1/16S223J
R	486	(A,41,149)	RS1/16S102J
R	487	(B,49,151)	RS1/16S223J
R	488	(B,42,156)	RS1/16S471J
R	489	(B,42,161)	RS1/16S104J
R	498	(A,120,84)	RS1/16S223J
R	499	(A,118,82)	RS1/16S223J

Mark	No.	Description	Part No.
R	501	(B,61,57)	RS1/10S75R0F
R	502	(B,48,71)	RS1/10S75R0F
R	503	(B,48,76)	RS1/10S75R0F
R	504	(B,51,92) CHIP TYPE RESISTOR	RS1/10S68R0F
R	505	(B,49,90)	RS1/10S3R9J
R	506	(B,75,46)	RS1/16S0R0J
R	507	(B,89,57)	RS1/16S472J
R	508	(B,86,55)	RS1/16S473J
R	509	(B,88,49)	RS1/16S273J
R	510	(B,87,52)	RS1/16S225J
R	511	(B,84,49)	RS1/16S224J
R	512	(B,84,51)	RS1/16S104J
R	513	(B,81,61)	RS1/16S104J
R	514	(B,48,82)	RS1/10S75R0F
R	515	(B,80,78)	RS1/10S561J
R	516	(B,79,75)	RS1/16S122J
R	517	(B,83,79)	RS1/16S152J
R	518	(B,79,80)	RS1/16S100J
R	519	(B,73,70)	RS1/16S563J
R	520	(B,81,52)	RS1/16S221J
R	521	(A,48,68) CHIP TYPE RESISTOR	RS1/10S68R0F
R	522	(A,44,61)	RS1/10S3R9J
R	523	(A,45,69) CHIP TYPE RESISTOR	RS1/10S68R0F
R	524	(A,43,69)	RS1/10S3R9J
R	525	(A,48,79) CHIP TYPE RESISTOR	RS1/10S68R0F
R	526	(A,44,75)	RS1/10S3R9J
R	527	(A,47,87)	RS1/10S0R0J
R	528	(A,45,87)	RS1/10S75R0F
R	529	(A,43,81)	RS1/16S104J
R	530	(A,44,95) CHIP TYPE RESISTOR	RS1/10S68R0F
R	531	(A,44,93)	RS1/10S3R9J
R	532	(A,36,101)	RS1/10S75R0F
R	534	(A,58,76)	RS1/16S392J
R	535	(A,58,85)	RS1/16S392J
R	536	(B,54,80)	RS1/16S471J
R	538	(B,56,83)	RS1/16S471J
R	540	(B,52,80)	RS1/16S104J
R	541	(B,53,83)	RS1/16S104J
R	546	(A,51,63)	RS1/16S104J
R	547	(A,51,69)	RS1/16S104J
R	548	(B,49,47)	RS1/16S104J
R	549	(A,58,64)	RS1/16S104J
R	550	(B,55,89)	RS1/16S471J
R	552	(B,70,109)	RS1/16S471J
R	554	(B,58,92)	RS1/16S104J
R	555	(B,74,110)	RS1/16S104J
R	556	(A,56,97)	RS1/16S392J
R	557	(A,55,90)	RS1/16S392J
R	558	(B,67,55)	RS1/16S103J
R	560	(B,70,55)	RS1/16S153J
R	561	(B,69,53)	RS1/16S681J
R	562	(B,70,59)	RS1/16S103J
R	564	(B,70,61)	RS1/16S153J
R	565	(B,67,63)	RS1/16S681J
R	566	(B,74,65)	RS1/16S223J
R	568	(B,70,64)	RS1/16S123J
R	569	(B,76,65)	RS1/16S102J
R	571	(B,45,92)	RS1/10S75R0F
R	573	(B,52,63)	RS1/16S0R0J
R	574	(B,83,90)	RS1/16S0R0J

Mark	No.	Description	Part No.
	R 602	(B,62,172)	RS1/16S102J
	R 603	(B,51,169)	RS1/16S0R0J
	R 605	(B,83,170)	RS1/16S103J
	R 606	(B,77,172)	RS1/16S103J
	R 607	(B,55,166)	RS1/16S102J
	R 608	(B,31,175)	RS1/16S0R0J
	R 609	(B,27,183)	RS1/16S0R0J
	R 616	(B,103,175)	RS1/16S0R0J
	R 619	(A,106,170)	RS1/16S103J
	R 620	(A,126,163)	RS1/16S0R0J
	R 621	(A,109,162)	RS1/16S101J
	R 622	(A,109,160)	RS1/16S101J
	R 623	(B,133,173)	RS1/16S102J
	R 624	(A,132,174)	RS1/16S332J
	R 625	(A,137,181)	RS1/16S332J
	R 626	(B,144,176)	RS1/16S102J
	R 627	(A,130,173)	RS1/16S332J
	R 628	(A,133,171)	RS1/16S332J
	R 630	(B,88,181)	RS1/16S331J
	R 631	(B,81,181)	RS1/16S472J
	R 632	(B,77,183)	RS1/16S220J
	R 633	(B,79,181)	RS1/16S101J
	R 634	(B,77,179)	RS1/16S222J
	R 635	(B,25,174)	RS1/16S0R0J
	R 636	(B,54,174)	RS1/16S0R0J
	R 637	(B,58,174)	RS1/16S0R0J
	R 638	(B,66,175)	RS1/16S0R0J
	R 701	(B,60,34)	RS1/16S224J
	R 702	(B,30,29)	RS1/16S221J
	R 704	(B,30,32)	RS1/16S221J
	R 751	(B,46,37)	RS1/16S102J
	R 752	(B,48,41)	RS1/16S472J
	R 753	(B,58,43)	RS1/16S472J
	R 754	(B,36,37)	RS1/16S151J
	R 755	(B,60,43)	RS1/16S472J
	R 756	(B,40,37)	RS1/16S102J

CAPACITORS

Mark	No.	Description	Part No.
	C 104	(A,216,147)	CEAT220M25
	C 105	(A,223,156)	CKSRYF104Z25
	C 106	(A,226,169)	CKSRYF104Z25
	C 107	(A,209,144)	CCSRCH331J50
	C 109	(A,218,155)	CKSRYF104Z25
	C 110	(A,219,164)	CKSRYB105K10
	C 111	(B,214,159)	CCSRCH120J50
	C 112	(B,210,159)	CCSRCH120J50
	C 113	(A,200,149)	CKSRYF105Z10
	C 114	(B,201,158)	CCSRCH120J50
	C 115	(B,200,153)	CCSRCH120J50
	C 119	(A,189,183) ELECT. CAPACITOR	CEAT102M6R3
	C 120	(B,165,179)	CKSRYF104Z25
	C 121	(B,237,153)	CKSRYF105Z10
	C 122	(B,173,181)	CKSRYF105Z10
	C 123	(A,171,178) ELECT. CAPACITOR	CEAT471M6R3
	C 124	(A,189,152)	CKSRYF104Z25
	C 125	(A,182,154)	CKSRYF104Z25
	C 126	(A,185,134)	CKSRYF104Z25
	C 127	(A,178,114)	CEAT101M16

Mark	No.	Description	Part No.
	C 131	(A,192,119)	CKSRYF104Z25
	C 132	(A,193,116)	CKSRYF104Z25
	C 133	(A,197,109)	CKSRYF104Z25
	C 134	(A,203,106)	CKSRYF104Z25
	C 135	(A,208,104)	CKSRYF104Z25
	C 136	(A,214,121)	CKSRYF105Z10
	C 138	(A,222,119)	CEAT2R2M50
	C 139	(A,216,126)	CKSRYF104Z25
	C 140	(A,218,130)	CKSRYF104Z25
	C 141	(A,172,157)	CKSRYF105Z10
	C 142	(A,172,159)	CCSRCH102J50
	C 147	(B,231,159)	CKSRYF104Z25
	C 149	(A,197,103)	CCSRCH100D50
	C 150	(A,191,91)	CKSRYF105Z10
	C 152	(A,196,97)	CKSRYF105Z10
	C 154	(B,229,143)	CKSRYF104Z25
	C 155	(B,239,153)	CCSRCH102J50
	C 156	(A,175,135)	CKSRYF104Z25
	C 157	(A,175,129)	CKSRYB104K16
	C 166	(A,200,145)	CCSRCH102J50
	C 167	(A,187,132)	CCSRCH102J50
	C 168	(A,213,121)	CCSRCH102J50
	C 169	(A,216,130)	CCSRCH102J50
	C 202	(B,152,60)	CKSRYF104Z25
	C 204	(A,150,64)	CEAT101M16
	C 205	(A,146,49)	CEAT220M25
	C 206	(B,141,60)	CCSRCH471J50
	C 207	(A,190,88)	CKSRYF104Z25
	C 208	(B,152,46)	CKSRYB104K16
	C 301	(B,166,43)	CKSRYF104Z25
	C 302	(B,182,39)	CKSRYF104Z25
	C 303	(A,175,47)	CEAT101M16
	C 304	(A,183,48)	CEAT471M16
	C 305	(B,155,173)	CKSRYF104Z25
	C 306	(B,162,169)	CKSRYF104Z25
	C 307	(A,155,165)	CEAT101M16
	C 308	(A,150,174)	CEAT101M16
	C 309	(B,164,182)	CKSRYF104Z25
	C 310	(B,164,188)	CKSRYF104Z25
	C 311	(A,161,188)	CEAT221M16
	C 312	(A,149,182)	CEAT101M16
	C 313	(B,188,54)	CKSRYF105Z10
	C 314	(B,186,66)	CKSRYF104Z25
	C 315	(A,189,63)	CEAT101M16
	C 316	(A,192,70)	CEAT101M16
	C 317	(B,177,50)	CKSRYF104Z25
	C 318	(B,174,71)	CKSRYF104Z25
	C 319	(A,180,66)	CEAT101M16
	C 320	(A,180,77)	CEAT101M16
	C 321	(B,171,54)	CKSRYF104Z25
	C 322	(B,159,53)	CCSRCH101J50
	C 323	(B,162,49) CERAMIC CAPACITOR	CKSQYF105Z50
	C 324	(B,170,71)	CKSRYF104Z25
	C 326	(A,166,51)	CEAT100M50
	C 328	(B,158,42)	CKSRYF104Z50
	C 329	(B,146,185)	CKSRYF104Z25
	C 401	(A,131,111)	CKSRYF105Z10
	C 402	(A,138,104)	CCSRCH101J50
	C 403	(A,134,105)	CCSRCH101J50
	C 404	(A,123,112)	CKSRYF105Z10

Mark	No.	Description	Part No.
C	406	(A,117,108)	CKSRYB104K16
C	407	(A,115,108)	CKSRYB105K10
C	408	(A,112,108)	CKSRYB105K10
C	409	(A,111,108)	CKSRYB105K10
C	410	(A,109,108)	CKSRYB105K10
C	411	(A,145,114)	CKSRYB105K10
C	412	(A,144,119)	CKSRYB105K10
C	413	(B,122,116)	CKSRYB104K16
C	414	(A,137,113)	CKSRYF104Z25
C	415	(A,139,113)	CKSRYF104Z25
C	416	(A,147,110)	CKSRYB105K10
C	417	(A,145,112)	CKSRYB105K10
C	418	(A,143,121)	CKSRYF105Z10
C	419	(A,142,124)	CKSRYB105K10
C	420	(A,142,126)	CKSRYB105K10
C	421	(A,143,127)	CKSRYB105K10
C	422	(A,143,129)	CKSRYB105K10
C	423	(A,143,131)	CKSRYB105K10
C	424	(A,143,133)	CKSRYB105K10
C	428	(A,125,137)	CKSRYB104K16
C	429	(B,136,129)	CKSRYB105K10
C	430	(B,136,127)	CKSRYB104K16
C	431	(A,131,142)	CKSRYB104K16
C	432	(A,126,140)	CKSRYB105K10
C	433	(A,110,144)	CKSRYB105K10
C	434	(A,120,136)	CKSRYB104K16
C	435	(A,102,110)	CKSRYB105K10
C	436	(A,102,112)	CKSRYB105K10
C	437	(A,102,114)	CKSRYB105K10
C	438	(A,108,117)	CKSRYF105Z10
C	439	(A,106,130)	CKSRYB104K16
C	440	(A,117,137)	CKSRYB104K16
C	441	(A,111,140)	CKSRYF105Z10
C	442	(A,111,136)	CKSRYF104Z25
C	443	(A,133,142)	CKSRYB105K10
C	444	(A,124,144)	CKSRYB105K10
C	445	(A,114,152)	CKSRYB105K10
C	446	(A,120,144)	CKSRYB105K10
C	447	(A,130,150)	CKSRYB103K50
C	450	(A,142,91)	CEANP4R7M50
C	451	(A,137,91)	CEANP4R7M50
C	452	(A,129,95)	CEAT101M10
C	453	(A,135,96)	CEAT101M10
C	454	(A,100,119)	CEAT101M10
C	455	(A,153,118)	CEAT4R7M50
C	456	(A,139,150)	CEAT1R0M50
C	457	(A,117,146)	CEAT100M50
C	458	(A,97,146)	CEAT101M10
C	459	(A,125,102)	CKSRYF105Z10
C	460	(A,120,111)	CKSRYB105K10
C	461	(A,125,97)	CKSRYB105K10
C	462	(A,126,92)	CKSRYF105Z10
C	464	(A,147,97)	CKSRYF104Z25
C	465	(A,112,87)	CKSRYF104Z25
C	466	(A,118,90)	CCSRCH102J50
C	467	(A,121,87)	CKSRYF105Z10
C	470	(A,113,84)	CKSRYB104K16
C	471	(A,151,107)	CEAT100M50
C	472	(A,154,95)	CEAT100M50

Mark	No.	Description	Part No.
C	473	(A,131,84)	CEAT101M16
C	474	(A,142,107)	CEAT100M50
C	475	(A,148,93)	CEAT100M50
C	476	(B,43,116)	CKSRYB103K50
C	477	(B,42,153)	CCSRCH152J50
C	482	(B,38,143)	CCSRCH471J50
C	483	(B,40,161)	CCSRCH152J50
C	484	(B,37,155)	CCSRCH471J50
C	486	(A,53,112) ELECT. CAPACITOR	CEAT102M6R3
C	487	(A,54,155) ELECT. CAPACITOR	CEAT102M6R3
C	488	(A,53,141) ELECT. CAPACITOR	CEAT471M6R3
C	489	(A,53,129) ELECT. CAPACITOR	CEAT471M6R3
C	490	(A,53,121) ELECT. CAPACITOR	CEAT102M6R3
C	491	(A,53,135)	CEAT470M16
C	492	(A,46,163)	CEAT221M6R3
C	493	(A,53,148)	CEAT470M16
C	497	(A,142,137)	CKSRYF104Z25
C	498	(A,144,151)	CKSRYF104Z25
C	510	(B,75,50)	CKSRYF104Z25
C	511	(B,84,53)	CCSRCH221J50
C	512	(B,39,93)	CCSRCH221J50
C	514	(B,78,71)	CKSRYF104Z25
C	515	(B,88,47)	CKSRYF104Z25
C	517	(B,79,54)	CCSRCH221J50
C	525	(A,33,101)	CCSRCH221J50
C	528	(A,68,97) ELECT. CAPACITOR	CEAT102M6R3
C	529	(A,73,128) ELECT. CAPACITOR	CEAT471M6R3
C	530	(A,73,113) ELECT. CAPACITOR	CEAT471M6R3
C	531	(A,73,120) ELECT. CAPACITOR	CEAT471M6R3
C	532	(A,79,130) ELECT. CAPACITOR	CEAT102M6R3
C	533	(B,41,125)	CKSRYB103K50
C	534	(A,50,51)	CCSRCH471J50
C	535	(A,50,48)	CCSRCH471J50
C	536	(A,51,65)	CCSRCH152J50
C	537	(A,51,67)	CCSRCH152J50
C	538	(A,60,72)	CCSRCH152J50
C	539	(B,50,60)	CCSRCH152J50
C	540	(A,54,60)	CCSRCH471J50
C	541	(A,66,78)	CEAT4R7M50
C	542	(A,66,84)	CEAT4R7M50
C	543	(A,66,90)	CEAT4R7M50
C	544	(A,73,107)	CEAT4R7M50
C	545	(A,84,121)	CEAT101M16
C	546	(B,72,55)	CKSRYF104Z25
C	547	(A,63,51)	CEAT220M25
C	548	(B,73,60)	CCSRCH102J50
C	549	(B,72,63)	CKSRYF105Z10
C	550	(A,63,61)	CEAT220M25
C	551	(A,63,67)	CEAT220M25
C	553	(A,52,60)	CCSRCH471J50
C	602	(B,27,173)	CKSRYB222K50
C	603	(B,51,173)	CKSRYB222K50
C	604	(B,60,174)	CCSRCH101J50
C	605	(B,44,173)	CCSRCH100D50
C	606	(B,48,173)	CCSRCH100D50
C	607	(A,72,166)	CEAT1R0M50
C	609	(A,63,168)	CEAT101M10
C	611	(A,56,169)	CEAT470M16
C	613	(B,130,168)	CKSRYF105Z10

Mark	No.	Description	Part No.
C	614	(B,80,176)	CKSRYF104Z25
C	615	(B,88,179)	CCSRCH101J50
C	616	(B,80,178)	CKSRYB103K50
C	617	(A,114,183)	CKSRYF104Z25
C	618	(A,122,183)	CKSRYF104Z25
C	619	(A,125,181)	CKSRYF104Z25
C	620	(A,109,180)	CKSRYF105Z10
C	621	(B,88,183)	CCSRCH560J50
C	622	(A,109,176)	CCSRCH560J50
C	623	(B,97,180)	CCSRCH5R0C50
C	624	(B,96,172)	CCSRCH5R0C50
C	625	(B,122,171)	CKSRYF105Z10
C	626	(B,139,182)	CKSRYF104Z25
C	627	(B,141,182)	CCSRCH102J50
C	628	(A,134,173)	CKSRYB103K50
C	629	(A,129,175)	CKSRYB392K50
C	630	(A,141,176)	CCSRCH561J50
C	631	(A,137,167)	CKSRYB103K50
C	632	(A,128,172)	CKSRYB392K50
C	633	(A,139,172)	CCSRCH561J50
C	635	(A,111,166)	CCSRCH220J50
C	636	(A,112,164)	CCSRCH220J50
C	638	(A,114,188)	CEAT100M50
C	639	(A,120,188)	CEAT3R3M50
C	640	(A,82,175)	CEAT101M10
C	641	(A,132,178)	CEAT100M50
C	642	(A,143,180)	CEAT101M10
C	643	(A,127,168)	CEAT101M10
C	701	(B,65,34)	CKSRYF105Z10
C	702	(B,26,28)	CCSRCH681J50
C	703	(B,24,30)	CKSRYF104Z25
C	751	(B,48,37)	CKSRYF104Z25
C	752	(B,56,43)	CCSRCH101J50
C	753	(B,46,41)	CCSRCH101J50
C	754	(B,27,40)	CCSRCH101J50

B SERVICE FLKY ASSY (DVR-LX61D)

MISCELLANEOUS

Mark	No.	Description	Part No.
IC	101	(B,143,78) FL DRIVER IC	PT6315
Q	103	(B,122,57) DIGITAL TRANSISTOR	DTC124EUA
Q	104	(B,204,73) TRANSISTOR	2SC5712
Q	105	(B,201,66) TRANSISTOR	2SA1576A
Q	106	(B,211,61) TRANSISTOR	2SC4081
Q	107	(B,108,56) DIGITAL TRANSISTOR	DTC124EUA
Q	111	(B,98,56) DIGITAL TRANSISTOR	DTC124EUA
Q	112	(B,61,49) TRANSISTOR	2SD2153
Q	203	(B,144,32) DIGITAL TRANSISTOR	DTC124EUA
Q	204	(B,79,18) DIGITAL TRANSISTOR	DTC124EUA
Q	206	(B,76,23) DIGITAL TRANSISTOR	DTC124EUA
D	106	(A,108,62) LED(RED)	SLR-343VC(NPQ)
D	107	(B,222,46) DIODE	RF101L2S
D	108	(B,202,81) DIODE	UDZS15(B)
D	109	(B,200,73) DIODE	1SS355
D	110	(B,213,71) DIODE	RF101L2S
D	111	(B,209,79) DIODE	UDZS2R4(B)
D	112	(B,200,83) DIODE	UDZS13(B)
D	113	(A,123,62) LED(RED)	SLR-343VC(NPQ)
D	119	(A,97,62) LED(RED)	SLR-343VC(NPQ)
D	120	(A,32,59) LED(WHITE)	SLR343WBCT(MNPQ)
D	121	(A,39,59) LED(BLUE)	SLR343BC4T(JKLM)
D	122	(A,24,59) LED(BLUE)	SLR343BC4T(JKLM)
D	205	(A,83,21) LED(BLUE)	SLR343BC4T(JKLM)
D	212	(A,73,22) LED(ORANGE)	SLR-343DC(NPQ)
D	271	(A,146,38) LED(BLUE)	SLR343BC4T(JKLM)
L	101	(A,198,70) AXIAL INDUCTOR	LAU220J
V	101	(A,97,89) FLUORESCENT TUBE	VAW1091
S	103	(A,93,45) SWITCH	VSG1024
S	104	(A,93,39) SWITCH	VSG1024
S	105	(A,68,39) SWITCH	VSG1024
S	106	(A,119,39) SWITCH	VSG1024
S	107	(A,52,39) SWITCH	VSG1024
S	108	(A,119,45) SWITCH	VSG1024
S	109	(A,52,45) SWITCH	VSG1024
S	110	(A,213,40) SWITCH	VSG1024
S	111	(A,68,45) SWITCH	VSG1024
S	112	(A,83,72) SWITCH	VSG1024
S	201	(A,149,44) SWITCH	VSG1024
S	202	(A,79,10) SWITCH	VSG1024
T	101	(A,223,54) TRANSFORMER	VTT1171
CN	101	(A,188,63) CONNECTOR	9604S-17C
	102	HOUSING ASS'Y(6P)	YKP1007
	103	REMOTE RECEIVER UNIT	GP1UM28XK0VF

RESISTORS

Mark	No.	Description	Part No.
R	104	(B,196,60)	RS1/16S0R0J
R	110	(B,126,74)	RS1/16S470J
R	111	(B,129,74)	RS1/16S470J
R	112	(B,124,74)	RS1/16S470J
R	113	(B,134,72)	RS1/16S823J
R	117	(B,195,75)	RS1/16S104J
R	118	(B,193,75)	RS1/16S102J
R	119	(B,210,73)	RS1/16S273J
R	120	(B,203,65)	RS1/16S103J
R	121	(B,216,59)	RS1/10S221J
R	122	(B,216,56)	RS1/16S122J
R	123	(B,210,83)	RS1/16S103J
R	124	(B,205,61)	RS1/16S102J
R	125	(B,81,43)	RS1/16S103J
R	126	(B,83,43)	RS1/16S103J
R	127	(B,75,44)	RS1/16S222J
R	128	(B,111,42)	RS1/16S222J
R	129	(B,73,42)	RS1/16S222J
R	130	(B,114,40)	RS1/16S222J
R	131	(B,71,42)	RS1/16S332J
R	132	(B,116,40)	RS1/16S332J
R	133	(B,117,63)	RS1/16S271J
R	135	(B,215,40)	RS1/16S562J
R	137	(B,220,83)	RS1/16S0R0J
R	138	(B,193,84)	RS1/16S0R0J
R	139	(B,115,63)	RS1/16S271J
R	144	(B,150,68)	RS1/16S0R0J
R	148	(B,77,44)	RS1/16S470J
R	149	(B,88,44)	RS1/16S470J
R	150	(B,61,58)	RS1/16S562J
R	152	(B,102,66)	RS1/16S271J
R	155	(B,49,54)	RS1/16S152J
R	156	(B,47,54)	RS1/16S392J
R	157	(B,47,51)	RS1/16S152J

Mark	No.	Description	Part No.
R	158	(B,63,44)	RS1/16S103J
R	159	(B,14,56)	RS1/16S470J
R	160	(B,16,56)	RS1/16S222J
R	161	(B,56,59)	RS1/16S222J
R	162	(B,21,61)	RS1/16S0R0J
R	163	(B,19,59)	RS1/16S0R0J
R	164	(B,52,55)	RS1/16S152J
R	165	(B,47,58)	RS1/16S0R0J
R	166	(B,47,49)	RS1/16S152J
R	204	(B,151,28)	RS1/16S562J
R	205	(B,78,13)	RS1/16S332J
R	221	(B,61,27)	RS1/16S182J
R	222	(B,98,26)	RS1/16S182J
R	224	(B,65,27)	RS1/16S182J
R	270	(B,149,28)	RS1/16S182J
R	272	(B,147,28)	RS1/16S182J

CAPACITORS

C	103	(B,95,83)	CKSRYB103K50
C	104	(B,216,85)	CKSRYB103K50
C	106	(B,148,68)	CKSRYF104Z25
C	107	(B,155,82)	CKSRYF104Z50
C	112	(B,132,80)	CKSRYF104Z25
C	113	(A,206,55)	CEAL101M10
C	115	(B,197,66)	CKSRYF104Z25
C	116	(A,200,62)	CEJQ101M16
C	117	(B,206,65)	CKSRYB223K50
C	118	(A,218,63) ELECTR. CAPACITOR	CEAL100M50
C	119	(B,98,35)	CKSRYF104Z25
C	121	(B,212,56)	CKSRYB103K50
C	123	(B,108,42)	CKSRYF104Z25
C	124	(B,106,42)	CKSRYF104Z25
C	127	(B,220,76)	CKSRYF104Z25
C	128	(A,225,64)	CEAL101M10
C	129	(B,115,67)	CKSRYF104Z25
C	132	(B,117,67)	CKSRYF104Z25
C	133	(B,102,70)	CKSRYF104Z25
C	134	(B,54,36)	CKSRYF104Z25
C	135	(B,54,48)	CKSRYF104Z25
C	201	(B,76,13)	CKSRYF104Z25
C	202	(B,57,27)	CKSRYF104Z25
C	204	(B,96,26)	CKSRYF104Z25
C	270	(B,143,28)	CKSRYF104Z25

B SERVICE FLKY ASSY (DVR-560HX-S,DVR-560HX-K)

MISCELLANEOUS

Mark	No.	Description	Part No.
IC	101	(B,143,78) FL DRIVER IC	PT6315
Q	103	(B,122,57) DIGITAL TRANSISTOR	DTC124EUA
Q	104	(B,204,73) TRANSISTOR	2SC5712
Q	105	(B,201,66) TRANSISTOR	2SA1576A
Q	106	(B,211,61) TRANSISTOR	2SC4081
Q	107	(B,108,56) DIGITAL TRANSISTOR	DTC124EUA
Q	111	(B,98,56) DIGITAL TRANSISTOR	DTC124EUA
Q	112	(B,61,49) TRANSISTOR	2SD2153
Q	203	(B,144,32) DIGITAL TRANSISTOR	DTC124EUA
Q	204	(B,79,18) DIGITAL TRANSISTOR	DTC124EUA
Q	206	(B,76,23) DIGITAL TRANSISTOR	DTC124EUA
D	106	(A,108,62) LED(RED)	SLR-343VC(NPQ)
D	107	(B,222,46) DIODE	RF101L2S
D	108	(B,202,81) DIODE	UDZS15(B)
D	109	(B,200,73) DIODE	1SS355
D	110	(B,213,71) DIODE	RF101L2S
D	111	(B,209,79) DIODE	UDZS2R4(B)
D	112	(B,200,83) DIODE	UDZS13(B)
D	113	(A,123,62) LED(RED)	SLR-343VC(NPQ)
D	119	(A,97,62) LED(RED)	SLR-343VC(NPQ)
D	205	(A,83,21) LED(BLUE)	SLR343BC4T(JKLM)
D	212	(A,73,22) LED(ORANGE)	SLR-343DC(NPQ)
L	101	(A,198,70) AXIAL INDUCTOR	LAU220J
V	101	(A,97,89) FLUORESCENT TUBE	VAW1091
S	103	(A,93,45) SWITCH	VSG1024
S	104	(A,93,39) SWITCH	VSG1024
S	105	(A,68,39) SWITCH	VSG1024
S	106	(A,119,39) SWITCH	VSG1024
S	107	(A,52,39) SWITCH	VSG1024
S	108	(A,119,45) SWITCH	VSG1024
S	109	(A,52,45) SWITCH	VSG1024
S	110	(A,213,40) SWITCH	VSG1024
S	111	(A,68,45) SWITCH	VSG1024
S	112	(A,83,72) SWITCH	VSG1024
S	113	(A,61,63) SWITCH	VSG1024
S	114	(A,36,63) SWITCH	VSG1024
S	115	(A,9,63) SWITCH	VSG1024
S	201	(A,149,44) SWITCH	VSG1024
S	202	(A,79,10) SWITCH	VSG1024
T	101	(A,223,54) TRANSFORMER	VTT1171
CN	101	(A,188,63) CONNECTOR	9604S-17C
	102	HOUSING ASS'Y(6P)	YKP1007
	103	REMOTE RECEIVER UNIT	GP1UM28XK0VF

RESISTORS

R	104	(B,196,60)	RS1/16S0R0J
R	110	(B,126,74)	RS1/16S470J
R	111	(B,129,74)	RS1/16S470J
R	112	(B,124,74)	RS1/16S470J
R	113	(B,134,72)	RS1/16S823J
R	117	(B,195,75)	RS1/16S104J
R	118	(B,193,75)	RS1/16S102J
R	119	(B,210,73)	RS1/16S273J
R	120	(B,203,65)	RS1/16S103J
R	121	(B,216,59)	RS1/10S221J
R	122	(B,216,56)	RS1/16S122J
R	123	(B,210,83)	RS1/16S103J
R	124	(B,205,61)	RS1/16S102J
R	125	(B,81,43)	RS1/16S103J
R	126	(B,83,43)	RS1/16S103J
R	127	(B,75,44)	RS1/16S222J
R	128	(B,111,42)	RS1/16S222J
R	129	(B,73,42)	RS1/16S222J
R	130	(B,114,40)	RS1/16S222J
R	131	(B,71,42)	RS1/16S332J
R	132	(B,116,40)	RS1/16S332J
R	133	(B,117,63)	RS1/16S271J
R	135	(B,215,40)	RS1/16S562J
R	137	(B,220,83)	RS1/16S0R0J
R	138	(B,193,84)	RS1/16S0R0J

Mark	No.	Description	Part No.
	R 139	(B,115,63)	RS1/16S271J
	R 144	(B,150,68)	RS1/16S0R0J
	R 148	(B,77,44)	RS1/16S470J
	R 149	(B,88,44)	RS1/16S470J
	R 150	(B,61,58)	RS1/16S562J
	R 152	(B,102,66)	RS1/16S271J
	R 155	(B,49,54)	RS1/16S152J
	R 156	(B,47,54)	RS1/16S392J
	R 157	(B,47,51)	RS1/16S152J
	R 158	(B,63,44)	RS1/16S103J
	R 159	(B,14,56)	RS1/16S470J
	R 160	(B,16,56)	RS1/16S222J
	R 161	(B,56,59)	RS1/16S222J
	R 162	(B,21,61)	RS1/16S0R0J
	R 163	(B,19,59)	RS1/16S0R0J
	R 164	(B,52,55)	RS1/16S152J
	R 165	(B,47,58)	RS1/16S0R0J
	R 166	(B,47,49)	RS1/16S152J
	R 204	(B,151,28)	RS1/16S562J
	R 205	(B,78,13)	RS1/16S332J
	R 221	(B,61,27)	RS1/16S182J
	R 222	(B,98,26)	RS1/16S182J
	R 224	(B,65,27)	RS1/16S182J
	R 270	(B,149,28)	RS1/16S182J
	R 272	(B,147,28)	RS1/16S182J

CAPACITORS

Mark	No.	Description	Part No.
	C 103	(B,95,83)	CKSRYB103K50
	C 104	(B,216,85)	CKSRYB103K50
	C 106	(B,148,68)	CKSRYF104Z25
	C 107	(B,155,82)	CKSRYF104Z50
	C 112	(B,132,80)	CKSRYF104Z25
	C 113	(A,206,55)	CEAL101M10
	C 115	(B,197,66)	CKSRYF104Z25
	C 116	(A,200,62)	CEJQ101M16
	C 117	(B,206,65)	CKSRYB223K50
	C 118	(A,218,63) ELECTR. CAPACITOR	CEAL100M50
	C 119	(B,98,35)	CKSRYF104Z25
	C 121	(B,212,56)	CKSRYB103K50
	C 123	(B,108,42)	CKSRYF104Z25
	C 124	(B,106,42)	CKSRYF104Z25
	C 127	(B,220,76)	CKSRYF104Z25
	C 128	(A,225,64)	CEAL101M10
	C 129	(B,115,67)	CKSRYF104Z25
	C 132	(B,117,67)	CKSRYF104Z25
	C 133	(B,102,70)	CKSRYF104Z25
	C 134	(B,54,36)	CKSRYF104Z25
	C 135	(B,54,48)	CKSRYF104Z25
	C 201	(B,76,13)	CKSRYF104Z25
	C 202	(B,57,27)	CKSRYF104Z25
	C 204	(B,96,26)	CKSRYF104Z25
	C 270	(B,143,28)	CKSRYF104Z25

C SERVICE FRJB ASSY (DVR-LX61D)

MISCELLANEOUS

Mark	No.	Description	Part No.
	JA 301	(A,211,31) 4P MINIDIN SOCKET(S)	AKP1239
	JA 302	(A,181,32) JACK	YKB1001
	KN 301	(A,232,17) WRAPPING TERMINAL	VNF1084
	KN 302	(A,154,17) WRAPPING TERMINAL	VNF1084
	CN 301	(A,198,7) CONNECTOR	HLEM11S-1
		FL HOLDER (FE)	VNF1134

RESISTORS

Mark	No.	Description	Part No.
	R 303	(B,181,16)	RS1/16S0R0J
	R 305	(B,178,15)	RS1/16S0R0J
	R 306	(B,165,15)	RS1/16S0R0J

CAPACITORS

Mark	No.	Description	Part No.
	C 303	(B,181,20)	CCSRCH471J50
	C 305	(B,162,18)	CCSRCH471J50

C SERVICE FRJB ASSY (DVR-560HX-S,DVR-560HX-K)

MISCELLANEOUS

Mark	No.	Description	Part No.
	JA 301	(A,211,31) 4P MINIDIN SOCKET(S)	AKP1238
	JA 302	(A,181,32) JACK	VKB1208
	KN 301	(A,232,17) WRAPPING TERMINAL	VNF1084
	KN 302	(A,154,17) WRAPPING TERMINAL	VNF1084
	CN 301	(A,198,7) CONNECTOR	HLEM11S-1
		FL HOLDER (FE)	VNF1134

RESISTORS

Mark	No.	Description	Part No.
	R 303	(B,181,16)	RS1/16S0R0J
	R 305	(B,178,15)	RS1/16S0R0J
	R 306	(B,165,15)	RS1/16S0R0J

CAPACITORS

Mark	No.	Description	Part No.
	C 303	(B,181,20)	CCSRCH471J50
	C 305	(B,162,18)	CCSRCH471J50

D MAIN ASSY (DVR-LX61D)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 201		K4S641632K-UC60
	IC 501		BD7956FS
	IC 1001		MC-10050F1-507LU1A
	IC 1102		VYW2410
	IC 1201,1221		EDD5116AFTA-6B-E
	IC 1301,1302		NJM12904V
	IC 3101		AK5359ET
	IC 3201		PCM1742KE
	IC 3202		UPC4570G2-A
	IC 3701		TC7WH34FU
	IC 3702,5203		TC7SH08FUS1
	IC 3707		PST3813U
⚠	IC 4501,4502		CEK1285
⚠	IC 4511		S-1170B33UC-OTS
⚠	IC 4521		S-1170B25UC-OTK
⚠	IC 4531		MM1701WH
⚠	IC 4541		MM1563DF
⚠	IC 4552		S-1170B50UC-OUJ
⚠	IC 4561		S-1112B50MC-L7J
⚠	IC 4562		S-1112B33MC-L6S

Mark	No.	Description	Part No.
⚠	IC 4571		S-1132B18-U5
	IC 4701		TC74VCX245FK
	IC 4702		TC7SZ08FU
	IC 4703		TC74VHC125FK
	IC 5103		UPD72852AGB-8EU-A
	IC 5151		TC7MBL3257AFK
	IC 5202		R5523N001B
⚠	IC 5204		R1173H001B
	IC 5602		88SA8040B1-TBC1
	IC 5701		TC74VHC00FTS1
	IC 5801		SII9002CSU
	IC 5803		TC7WPB306FK
	IC 5804		TC7WB125FK
	Q 102		RT1N141U
	Q 1801,1811,2501-2505		2SA1576A
	Q 3301,3303,3305,3307		2SA1576A
	Q 3302,3304,3306,3308		2SC4081
	Q 4581,5701		2SC4081
	Q 5801		HN1C01FU
	Q 5802		UMB1N
	Q 5804		DTC124EUA
	Q 5805		2SA1576A
	Q 5808		2SK2034
	Q 5810		UMF21N
	D 3201		DAN202U
	D 4521,4552,4571		RB501V-40

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 105	CHIP COIL	BTH1103
	L 1001-1004,1021-1025	EMI FILTER	DTL1106
	L 1005	INDUCTOR	LCTC150K2125
	L 1801	CHIP COIL	LCYA390J2520
	L 1811	INDUCTOR	LCYA150J2520
	L 1821,1831,5122,5601	EMI FILTER	DTL1106
	L 3301,3303,3305,3307	CHIP COIL	LCYA180J2520
	L 3302,3304,3306,3308	INDUCTOR	LCYA100J2520
	L 5101	INDUCTOR	CTF1305
	L 5201,5202	COIL	ATH7015
	L 5701	INDUCTOR	CTF1382
	L 5801-5804	EMI FILTER	ATF1209
	L 5805	EMI FILTER	DTL1106
	JA 5701	JACK	VKB1159
	JA 5801	HDMI CONNECTOR	AKP1318
	X 101	CERAMIC RESONATOR	DSS1157
	X 1001	CRYSTAL RESONATOR	VSS1220
	X 1002	CRYSTAL RESONATOR	VSS1172
	X 5101	CRYSTAL	VSS1211
	X 5201	CRYSTAL	VSS1218
	X 5502	CRYSTAL	VSS1214
	CN 101	CONNECTOR	DKN1404
	CN 201	CONNECTOR	VKN2029
	CN 501	CONNECTOR	DKN1312
	CN 502	4P CONNECTOR	DKN1288
	CN 601	5P CONNECTOR	DKN1402
	CN 1401	CONNECTOR	VKN2030
	CN 1402	07P CONNECTOR	RKN1048
	CN 1501	50P B TO B CONNECTOR	VKN2079
	CN 2301	40P CONNECTOR	VKN2065
	CN 3801	CONNECTOR	CKS5321
	CN 4501	KR CONNECTOR	S13B-PH-K-S

Mark	No.	Description	Part No.
	CN 4701	CONNECTOR	VKN2045
	CN 5101	CONNECTOR	VKN1932
	CN 5201	CONNECTOR	VKN1936
	CN 5604	SATA PLUG HEADER	VKN2077
		HEATSINK(AL)	VNH1079
		SCREW	BBZ30P060FTC
		RADIATION SHEET	VEB1360

RESISTORS

Mark	No.	Description	Part No.
	R 174		RS1/16S4701F
	R 204-206,317-320		RAB4CQ330J
	R 219,220		RAB4CQ472J
	R 271,273,274,3230		RS1/10S0R0J
	R 501		DCN1171
	R 502		DCN1172
	R 510,511		RS1/10S1R8J
	R 1003		RS1/16S6800F
	R 1004,1301,3306,3312		RS1/16S4700F
	R 1032-1035,1411,3005		RAB4CQ103J
	R 1036,1039		RS1/16S43R0D
	R 1037,1040		RS1/16S1000F
	R 1241,1242,1248,1249		RAB4CQ0R0J
	R 1245,1246,1255,1256		RAB4CQ220J
	R 1261,1262,1268,1269		RAB4CQ0R0J
	R 1265,1266,1273,1274		RAB4CQ220J
	R 1281-1283,1287		RAB4CQ470J
	R 1302,1303,1312,1313		RS1/16S1001F
	R 1314,2506,4574,4575		RS1/16S0R0J
	R 1505-1513		RAB4CQ0R0J
	R 2502,2505,2508,2511		RS1/16S1500F
	R 2514		RS1/16S1500F
	R 3210,3216		RN1/16SE1201D
	R 3211,3217		RN1/16SE1002D
	R 3218,3223		RN1/16SE2202D
	R 3307,3313,3324,3325		RS1/16SS5601F
	R 3318,3323		RS1/16S4700F
	R 3810-3813,3837-3840		RAB4CQ330J
	R 3824		RAB4CQ820J
	R 3828-3833		RAB4CQ223J
	R 3851,5632,5638,5642		RAB4CQ330J
	R 4501,4551-4554,4556		RS1/10S0R0J
	R 4504,4505,4507		RS1/10S272J
	R 4701,4702,4721,4722		RAB4CQ101J
	R 4708,4709		RAB4CQ103J
	R 5101,5102		RAB4CQ104J
	R 5105,5106		RAB4CQ680J
	R 5118		RN1/16SE9101D
	R 5119-5122		RS1/16S56R0D
	R 5131		RN1/16SE5101D
	R 5203		RS1/16S3301F
	R 5204		RS1/16S8200F
	R 5220		RS1/16S1501F
	R 5445,5819,5820		RS1/10S0R0J
	R 5646		RAB4CQ330J
	R 5651		RS1/16S1202F
	R 5664,5672,5705,5830		RS1/16S0R0J
	R 5706		RS1/16S75R0F
	R 5825-5828		RAB4CQ220J
	R 5855		RAB4CQ100J

Mark	No.	Description	Part No.
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 100,101,105,117		CKSSYB102K50
	C 103,1009		VCH1234
	C 104,154,162,1004		VCG1057
	C 106,159,167,288		CKSSYF104Z16
	C 107		CKSSYB681K50
	C 113,114		CKSSYB472K25
	C 115,135,144,145		CKSSYB103K16
	C 116,120,124,128		CKSSYB104K10
	C 121,122		CKSSYB222K50
	C 125,129,280-285		VCG1058
	C 127,1805,1815		CKSSYB473K10
	C 130,181,194,4511		CKSQYB475K6R3
	C 131		CKSSYB683K10
	C 133,134,136,169		CKSSYB104K10
	C 137		CKSSYB682K25
	C 140,141,155		DCH1199
	C 142,143,146,180		DCH1201
	C 147,148		DCH1198
	C 149,157,158,187		CKSSYB103K16
	C 152,164,189,289		CKSSYB102K50
	C 153,1020,4516		CEVW100M16
	C 156		CKSSYB182K50
	C 163,1007,3108,3219		CEVW221M4
	C 165,166,176,177		CCSSCH220J50
	C 170,172-174		CCSSCH470J50
	C 171,197,504,516		CKSSYB104K10
	C 182,286,1021,1051		DCH1201
	C 188,1058,1205,1206		CKSSYB103K16
	C 287,2305,4522,4531		VCG1058
	C 290,501,1057,1060		CKSSYF104Z16
	C 291,508,1005,1011		CKSSYB102K50
	C 502		DCH1263
	C 503		CKSRYB471K50
	C 505,514,515		CKSRYB104K25
	C 509		CCSSCH330J50
	C 510,3304,3317,3323		CCSSCH680J50
	C 511		CKSQYB105K16
	C 512,513,803,832		CKSRYF104Z16
	C 532,1001,1002		CKSSYB104K10
	C 824		CKSQYF104Z25
	C 1003,1024,1036,1039		CEVW101M4
	C 1006,1008,1010,1013		VCG1057
	C 1012,1215,1236		VCH1268
	C 1014,1023,1026,1038		CKSSYB102K50
	C 1015-1019,1027-1035		CKSSYB104K10
	C 1022,1025,1037,1040		VCG1057
	C 1041,1049,1053,1061		CKSSYB102K50
	C 1042,1043		CCSSCJ3R0C50
	C 1044,1045,3303,3316		CCSSCH5R0C50
	C 1047		CKSSYB104K10
	C 1048,1052,1056,1059		VCG1057
	C 1050,5121,5122,5613		CEVW101M4
	C 1062,1066,1102,1104		VCG1057
	C 1063,1067,1105,1203		CKSSYF104Z16
	C 1064,1065,1068,1101		CKSSYB102K50
	C 1103,1207,1209,1210		CKSSYB102K50
	C 1113,1202,1204,1208		VCG1057
	C 1211-1214,1222,1230		CKSSYF104Z16
	C 1216-1221,1223,1227		VCG1057
	C 1224,1225,1401,3701		CKSSYB103K16
	C 1226,1228,1229,1504		CKSSYB102K50
	C 1231,1235,1316,1501		DCH1201
	C 1291,1302,1303,1312		CKSSYF104Z16
	C 1301,1315,1802,1812		CKSQYB225K10
	C 1304,3207,4515		CEVW470M6R3
	C 1313,1503,3105,3202		CKSSYF104Z16
	C 1421,1502,1801,1811		VCG1057
	C 1803		CCSSCH221J50
	C 1804,3204		CKSSYB331K50
	C 1813		CCSSCH101J50
	C 1814		CCSSCH151J50
	C 2501-2505,3104,3107		VCG1057
	C 2506,3704,4534,5151		DCH1201
	C 3103,3211,3218,4507		CEVW101M16
	C 3106,3203,3705,3706		CKSSYB102K50
	C 3201		CEAT102M6R3
	C 3206,3212,3217,4504		CKSSYF104Z16
	C 3213,3214		CKSSYB561K50
	C 3215,3216		CCSSCH820J50
	C 3220,3332-3335		VCG1057
	C 3301,3302,3311,3312		CCSRCH7R0D50
	C 3305,3318,3324,3331		CCSSCH150J50
	C 3307,3313,3319,3325		CKSRYB105K10
	C 3314,3315,3320,3321		CCSRCH7R0D50
	C 3322,3329		CCSSCH5R0C50
	C 3330		CCSSCH680J50
	C 3339-3342,3703,3707		VCG1057
	C 3738,3803,3804		VCG1057
	C 4501-4503,4505		VCG1057
	C 4506,4585,5104,5109		CKSSYF104Z16
	C 4508,4509,4572,5708		CEVW221M4
	C 4513,4524,4525,4555		CKSQYB475K6R3
	C 4532,4557,5604-5611		CKSSYB103K16
	C 4533,4541,4562,4563		VCG1058
	C 4535-4537,4539,4540		CKSSYB102K50
	C 4542,5212		CKSQYB225K10
	C 4543,4704-4706,5154		CKSSYB102K50
	C 4556,4571,4573		CKSQYB475K6R3
	C 4558,4559,4581,4586		CEVW101M16
	C 4567,4570,5217		VCG1058
	C 4701-4703,5105-5108		VCG1057
	C 5110-5112,5115,5116		VCG1057
	C 5113,5114,5153,5209		CKSSYF104Z16
	C 5117,5118,5640,5641		CCSSCH120J50
	C 5119		CKSSYB271K50
	C 5120,5123,5132,5133		VCG1057
	C 5152,5205,5213,5601		VCG1057
	C 5210		CEVW101M16
	C 5211,5216,5218,5219		CKSSYB102K50
	C 5222,5603,5612,5615		CKSSYF104Z16
	C 5223,5705,5706,5802		CKSSYB102K50
	C 5602,5702,5707,5801		VCG1057
	C 5614,5617,5622-5632		CKSSYB103K16
	C 5616,5812,5813		CKSSYF104Z16
	C 5704		CEVW1R0M50
	C 5803,5805-5808,5820		VCG1057

Mark	No.	Description	Part No.
	C 5804,5819,5821-5823		CKSSYB102K50
	C 5809		CEVW221M4
	C 5814		CKSRYF104Z16
	C 5815-5818		CKSRYB104K25
	C 5824,5826		VCG1057
	C 5825		CKSSYB102K50

D MAIN ASSY
(DVR-560HX-S,DVR-560HX-K)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 201		K4S641632K-UC60
	IC 501		BD7956FS
	IC 1001		MC-10050F1-507LU1A
	IC 1102		VYW2410
	IC 1201,1221		EDD5116AFTA-6B-E
	IC 1301,1302		NJM12904V
	IC 3101		AK5359ET
	IC 3201		PCM1742KE
	IC 3202		UPC4570G2-A
	IC 3701		TC7WH34FU
	IC 3702,5203		TC7SH08FUS1
	IC 3707		PST3813U
⚠	IC 4501,4502		CEK1285
⚠	IC 4511		S-1170B33UC-OTS
⚠	IC 4521		S-1170B25UC-OTK
⚠	IC 4531		MM1701WH
⚠	IC 4541		MM1563DF
⚠	IC 4552		S-1170B50UC-OUJ
⚠	IC 4561		S-1112B50MC-L7J
⚠	IC 4562		S-1112B33MC-L6S
⚠	IC 4571		S-1132B18-U5
	IC 4701		TC74VCX245FK
	IC 4702		TC7SZ08FU
	IC 4703		TC74VHC125FK
	IC 5103		UPD72852AGB-8EU-A
	IC 5151		TC7MBL3257AFK
	IC 5202		R5523N001B
⚠	IC 5204		R1173H001B
	IC 5602		88SA8040B1-TBC1
	IC 5701		TC74VHC00FTS1
	IC 5801		SII9002CSU
	IC 5803		TC7WPB306FK
	IC 5804		TC7WB125FK
	Q 102		RT1N141U
	Q 1801,1811,2501-2505		2SA1576A
	Q 3301,3303,3305,3307		2SA1576A
	Q 3302,3304,3306,3308		2SC4081
	Q 4581,5701		2SC4081
	Q 5801		HN1C01FU
	Q 5802		UMB1N
	Q 5804		DTC124EUA
	Q 5805		2SA1576A
	Q 5808		2SK2034
	Q 5810		UMF21N
	D 3201		DAN202U
	D 4521,4552,4571		RB501V-40

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 105	CHIP COIL	BTH1103
	L 1001-1004,1021-1025	EMI FILTER	DTL1106
	L 1005	INDUCTOR	LCTC150K2125
	L 1801	CHIP COIL	LCYA390J2520
	L 1811	INDUCTOR	LCYA150J2520
	L 1821,1831,5122,5601	EMI FILTER	DTL1106
	L 3301,3303,3305,3307	CHIP COIL	LCYA180J2520
	L 3302,3304,3306,3308	INDUCTOR	LCYA100J2520
	L 5101	INDUCTOR	CTF1305
	L 5201,5202	COIL	ATH7015
	L 5701	INDUCTOR	CTF1382
	L 5801-5804	EMI FILTER	ATF1209
	L 5805	EMI FILTER	DTL1106
	JA 5701	JACK	VKB1159
	JA 5801	HDMI CONNECTOR	AKP1318
	X 101	CERAMIC RESONATOR	DSS1157
	X 1001	CRYSTAL RESONATOR	VSS1220
	X 1002	CRYSTAL RESONATOR	VSS1172
	X 5101	CRYSTAL	VSS1211
	X 5201	CRYSTAL	VSS1218
	X 5502	CRYSTAL	VSS1214
	CN 101	CONNECTOR	DKN1404
	CN 201	CONNECTOR	VKN2029
	CN 501	CONNECTOR	DKN1312
	CN 502	4P CONNECTOR	DKN1288
	CN 601	5P CONNECTOR	DKN1402
	CN 1401	CONNECTOR	VKN2030
	CN 1402	07P CONNECTOR	RKN1048
	CN 2301	40P CONNECTOR	VKN2065
	CN 3801	CONNECTOR	CKS5321
	CN 4501	KR CONNECTOR	S13B-PH-K-S
	CN 4701	CONNECTOR	VKN2045
	CN 5101	CONNECTOR	VKN1932
	CN 5201	CONNECTOR	VKN1936
	CN 5604	SATA PLUG HEADER	VKN2077
		HEATSINK(AL)	VNH1079
		SCREW	BBZ30P060FTC
		RADIATION SHEET	VEB1360

RESISTORS

Mark	No.	Description	Part No.
	R 174		RS1/16S4701F
	R 204-206,317-320		RAB4CQ330J
	R 219,220		RAB4CQ472J
	R 271,273,274,3230		RS1/10S0R0J
	R 501		DCN1171
	R 502		DCN1172
	R 510,511		RS1/10S1R8J
	R 1003		RS1/16S6800F
	R 1004,1301,3306,3312		RS1/16S4700F
	R 1032-1035,1411,3005		RAB4CQ103J
	R 1036,1039		RS1/16S43R0D
	R 1037,1040		RS1/16S1000F
	R 1241,1242,1248,1249		RAB4CQ0R0J
	R 1245,1246,1255,1256		RAB4CQ220J
	R 1261,1262,1268,1269		RAB4CQ0R0J
	R 1265,1266,1273,1274		RAB4CQ220J
	R 1281-1283,1287		RAB4CQ470J
	R 1302,1303,1312,1313		RS1/16S1001F
	R 1314,2506,4574,4575		RS1/16S0R0J

Mark	No.	Description	Part No.
	R 2502,2505,2508,2511		RS1/16S1500F
	R 2514		RS1/16S1500F
	R 3210,3216		RN1/16SE1201D
	R 3211,3217		RN1/16SE1002D
	R 3218,3223		RN1/16SE2202D
	R 3307,3313,3324,3325		RS1/16SS5601F
	R 3318,3323		RS1/16S4700F
	R 3810-3813,3837-3840		RAB4CQ330J
	R 3824		RAB4CQ820J
	R 3828-3833		RAB4CQ223J
	R 3851,5632,5638,5642		RAB4CQ330J
	R 4501,4551-4554,4556		RS1/10S0R0J
	R 4504,4505,4507		RS1/10S272J
	R 4701,4702,4721,4722		RAB4CQ101J
	R 4708,4709		RAB4CQ103J
	R 5101,5102		RAB4CQ104J
	R 5105,5106		RAB4CQ680J
	R 5118		RN1/16SE9101D
	R 5119-5122		RS1/16S56R0D
	R 5131		RN1/16SE5101D
	R 5203		RS1/16S3301F
	R 5204		RS1/16S8200F
	R 5220		RS1/16S1501F
	R 5445,5819,5820		RS1/10S0R0J
	R 5646		RAB4CQ330J
	R 5651		RS1/16S1202F
	R 5664,5672,5705,5830		RS1/16S0R0J
	R 5706		RS1/16S75R0F
	R 5825-5828		RAB4CQ220J
	R 5855		RAB4CQ100J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 100,101,105,117		CKSSYB102K50
	C 103,1009		VCH1234
	C 104,154,162,1004		VCG1057
	C 106,159,167,288		CKSSYF104Z16
	C 107		CKSSYB681K50
	C 113,114		CKSSYB472K25
	C 115,135,144,145		CKSSYB103K16
	C 116,120,124,128		CKSSYB104K10
	C 121,122		CKSSYB222K50
	C 125,129,280-285		VCG1058
	C 127,1805,1815		CKSSYB473K10
	C 130,181,194,4511		CKSQYB475K6R3
	C 131		CKSSYB683K10
	C 133,134,136,169		CKSSYB104K10
	C 137		CKSSYB682K25
	C 140,141,155		DCH1199
	C 142,143,146,180		DCH1201
	C 147,148		DCH1198
	C 149,157,158,187		CKSSYB103K16
	C 152,164,189,289		CKSSYB102K50
	C 153,1020,4516		CEVW100M16
	C 156		CKSSYB182K50
	C 163,1007,3108,3219		CEVW221M4
	C 165,166,176,177		CCSSCH220J50
	C 170,172-174		CCSSCH470J50
	C 171,197,504,516		CKSSYB104K10
	C 182,286,1021,1051		DCH1201

Mark	No.	Description	Part No.
	C 188,1058,1205,1206		CKSSYB103K16
	C 287,2305,4522,4531		VCG1058
	C 290,501,1057,1060		CKSSYF104Z16
	C 291,508,1005,1011		CKSSYB102K50
	C 502		DCH1263
	C 503		CKSRYB471K50
	C 505,514,515		CKSRYB104K25
	C 509		CCSSCH330J50
	C 510,3304,3317,3323		CCSSCH680J50
	C 511		CKSQYB105K16
	C 512,513,803,832		CKSRYF104Z16
	C 532,1001,1002		CKSSYB104K10
	C 824		CKSQYF104Z25
	C 1003,1024,1036,1039		CEVW101M4
	C 1006,1008,1010,1013		VCG1057
	C 1012,1215,1236		VCH1268
	C 1014,1023,1026,1038		CKSSYB102K50
	C 1015-1019,1027-1035		CKSSYB104K10
	C 1022,1025,1037,1040		VCG1057
	C 1041,1049,1053,1061		CKSSYB102K50
	C 1042,1043		CCSSCJ3R0C50
	C 1044,1045,3303,3316		CCSSCH5R0C50
	C 1047		CKSSYB104K10
	C 1048,1052,1056,1059		VCG1057
	C 1050,5121,5122,5613		CEVW101M4
	C 1062,1066,1102,1104		VCG1057
	C 1063,1067,1105,1203		CKSSYF104Z16
	C 1064,1065,1068,1101		CKSSYB102K50
	C 1103,1207,1209,1210		CKSSYB102K50
	C 1113,1202,1204,1208		VCG1057
	C 1211-1214,1222,1230		CKSSYF104Z16
	C 1216-1221,1223,1227		VCG1057
	C 1224,1225,1401,3701		CKSSYB103K16
	C 1226,1228,1229,3106		CKSSYB102K50
	C 1231,1235,1316,2506		DCH1201
	C 1291,1302,1303,1312		CKSSYF104Z16
	C 1301,1315,1802,1812		CKSQYB225K10
	C 1304,3207,4515		CEVW470M6R3
	C 1313,3105,3202,3206		CKSSYF104Z16
	C 1421,1801,1811		VCG1057
	C 1803		CCSSCH221J50
	C 1804,3204		CKSSYB331K50
	C 1813		CCSSCH101J50
	C 1814		CCSSCH151J50
	C 2501-2505,3104,3107		VCG1057
	C 3103,3211,3218,4507		CEVW101M16
	C 3201		CEAT102M6R3
	C 3203,3705,3706		CKSSYB102K50
	C 3212,3217,4504,4506		CKSSYF104Z16
	C 3213,3214		CKSSYB561K50
	C 3215,3216		CCSSCH820J50
	C 3220,3332-3335		VCG1057
	C 3301,3302,3311,3312		CCSRCH7R0D50
	C 3305,3318,3324,3331		CCSSCH150J50
	C 3307,3313,3319,3325		CKSRYB105K10
	C 3314,3315,3320,3321		CCSRCH7R0D50
	C 3322,3329		CCSSCH5R0C50
	C 3330		CCSSCH680J50
	C 3339-3342,3703,3707		VCG1057

Mark	No.	Description	Part No.
C	3704,4534,5151		DCH1201
C	3738,3803,3804		VCG1057
C	4501-4503,4505		VCG1057
C	4508,4509,4572,5708		CEVW221M4
C	4513,4524,4525,4555		CKSQYB475K6R3
C	4532,4557,5604-5611		CKSSYB103K16
C	4533,4541,4562,4563		VCG1058
C	4535-4537,4539,4540		CKSSYB102K50
C	4542,5212		CKSQYB225K10
C	4543,4704-4706,5154		CKSSYB102K50
C	4556,4571,4573		CKSQYB475K6R3
C	4558,4559,4581,4586		CEVW101M16
C	4567,4570,5217		VCG1058
C	4585,5104,5109,5113		CKSSYF104Z16
C	4701-4703,5105-5108		VCG1057
C	5110-5112,5115,5116		VCG1057
C	5114,5153,5209,5222		CKSSYF104Z16
C	5117,5118,5640,5641		CCSSCH120J50
C	5119		CKSSYB271K50
C	5120,5123,5132,5133		VCG1057
C	5152,5205,5213,5601		VCG1057
C	5210		CEVW101M16
C	5211,5216,5218,5219		CKSSYB102K50
C	5223,5705,5706,5802		CKSSYB102K50
C	5602,5702,5707,5801		VCG1057
C	5603,5612,5615,5616		CKSSYF104Z16
C	5614,5617,5622-5632		CKSSYB103K16
C	5704		CEVW1R0M50
C	5803,5805-5808,5820		VCG1057
C	5804,5819,5821-5823		CKSSYB102K50
C	5809		CEVW221M4
C	5812,5813		CKSSYF104Z16
C	5814		CKSRYF104Z16
C	5815-5818		CKSRYB104K25
C	5824,5826		VCG1057
C	5825		CKSSYB102K50

E ETAB ASSY (DVR-LX61D only)

SEMICONDUCTORS

IC	101		UPD99914F1-BAC
IC	181		TC4SU69F
IC	182		TC7SZU04FU
IC	201,202		TC74VCX163245FT
IC	203		TC7MP3125FK
IC	301		LAN9211-ABZJ
IC	401		S-1133B00-U5
IC	411		S-1133B12-U5

MISCELLANEOUS

L	321,331	COIL	VTH1056
F	171,301	EMI FILTER	DTL1106
JA	301	RJ45 CONNECTOR TRNS	VKN2078
X	101	CRYSTAL OSCILLATOR	ASS1172
X	301	CRYSTAL	VSS1214
CN	501	50P B TO B CONNECTOR	VKN2080

RESISTORS

Mark	No.	Description	Part No.
R	111-114		RAB4CQ103J
R	185		RS1/16S0R0J
R	203-210		RAB4CQ220J
R	213-220		RAB4CQ100J
R	304		RAB4CQ473J
R	306-309		RS1/10SR49R9F
R	310		RS1/10SR10R0F
R	311		RS1/16SS1202F
R	403		RS1/16S56R0D
R	404		RS1/16S2001D
	Other Resistors		RS1/16SS###J

CAPACITORS

C	104,106,108,110		VCG1057
C	105,107,109,111		CKSSYB102K50
C	144,146,148,172		VCG1057
C	145,147,149,173		CKSSYB102K50
C	171,301		CEVW101M4
C	181,201,204,310		DCH1201
C	182,184,202,205		VCG1057
C	183,185,189,203		CKSSYB102K50
C	186		CCSSCH270J50
C	187		CCSSCH220J50
C	188		CKSSYB104K16
C	206,212,214,222		CKSSYB102K50
C	211,213,221,223		VCG1057
C	220,324,401,411		VCH1268
C	224,303,305,307		CKSSYB102K50
C	302,304,308,311		VCG1057
C	306,312,320,341		CKSSYF104Z16
C	309,313,315,317		CKSSYB102K50
C	314,316,318,325		VCG1057
C	319,321,326,342		CKSSYB102K50
C	327,328		CCSSCH120J50
C	340		CKSRYB223K50
C	343,404,414,416		CKSSYB102K50
C	402,412,415		VCG1058
C	403,413,417		CKSSYF104Z16
C	418		VCG1057
C	419		VCH1234

F SERVICE DVUB ASSY

MISCELLANEOUS

L	904	(B,218,44) CHIP FERRITE BEADS	VTL1169
L	905	(B,217,28) CHIP FERRITE BEADS	VTL1169
L	907	(B,220,10) CHIP FERRITE BEADS	VTL1169
L	908	(B,217,9) CHIP FERRITE BEADS	VTL1169
JA	901	(A,204,59) 1394-TERMINAL	VKN2028
JA	902	(A,203,37) USB CONNECTOR	VKB1226
JA	903	(A,220,15) USB CONNECTOR	VKB1227
CN	901	(A,231,57) CONNECTOR	VKN1932
CN	902	(A,231,30) CONNECTOR	VKN1936

RESISTORS

R	901	(B,222,52)	RS1/16S0R0J
R	902	(B,222,55)	RS1/16S0R0J
R	903	(B,222,63)	RS1/16S0R0J
R	904	(B,222,67)	RS1/16S0R0J
R	905	(B,223,40)	RS1/16S330J
R	906	(B,223,38)	RS1/16S330J

Mark	No.	Description	Part No.
	R 907 (B,223,19)		RS1/16S330J
	R 908 (A,226,57)		RS1/16S0R0J
	R 909 (B,223,21)		RS1/16S330J
	R 912 (A,227,69)		RS1/16S0R0J

CAPACITORS

Mark	No.	Description	Part No.
	C 905 (B,229,35)		CKSRYF105Z10
	C 906 (A,228,18)		CKSRYF105Z10
	C 907 (B,216,49)		CKSRYF104Z25
	C 908 (B,212,67)		CKSRYF104Z25

G SERVICE DTBR ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 101		K4H561638H-UCB3
	IC 104		KA5SDKAS01TSN
	IC 106		UPD61111GM-100UEVA
	IC 205		VYW2411
	IC 207		AAT4610AIGV-1
⚠	IC 300		S-1170B25UC-OTK
⚠	IC 304,312		MM1685AN
⚠	IC 306		S-1170B50UC-OUJ
⚠	IC 307		MM1689FH
	IC 309		FPF2007
	IC 313		DRX3975D-QI-B1
	IC 318		NJM12904V
	IC 3001		TC74LCX245FTS1
	IC 3002-3005,3009,3010		TC74LCX541FTS1
	IC 3006-3008		TC74LCX257FT
	IC 3011		TC74VHC00FTS1
	IC 3015		TC74LCX32FTS1
	Q 101,102,306		2SA1576A
	Q 202		DTA143EUA
	Q 203,307,308		2SC4081
	Q 204		DTC124EUA
	Q 205		HN1C01FU
	Q 309,310		DTC143EUA
	D 102		RB501V-40
	D 302		1.5SMC6.8A
	D 303		1SS355

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 195	INDUCTOR	LCYA100J2520
	L 314	CHIP FERRITE BEADS	XTX1003
	L 315,3001	FERRITE CORE	VTF1091
	F 101-106,108	FERRITE CORE	VTF1091
	F 202,300-302	FERRITE CORE	VTF1091
	F 306,309,310	FERRITE CORE	VTF1091
	F 313,314,317	FERRITE CORE	VTF1091
	F 318,321,397	FERRITE CORE	VTF1091
	F 398	FERRITE CORE	VTF1091
	KN 301	SCREW PLATE	VNE1948
	X 100	CRYSTAL RESONATOR	BSS1123
	X 300	CRYSTAL RESONATOR	VSS1221
	CN 0	CONNECTOR GUIDE	VEC2559
	CN 102	CONNECTOR	VKN2045
	CN 103	CONNECTOR	CKS3384
	CN 201	CONNECTOR	VKP2396
	CN 203	CONNECTOR POST	B2B-PH-K-S
		SCREW	PMZ20P080FTC
	U 301	DIGITAL TV TUNER EU	VXF1158

RESISTORS

Mark	No.	Description	Part No.
	R 121-128		RS1/16S1000F
	R 166,167		RS1/16S9100F
	R 168		RS1/16S2200F
	R 169		RS1/16S1500F
	R 185,186,193,194		RAB4CQ560J
	R 187		RAB4CQ151J
	R 188-192		RAB4CQ101J
	R 239-249,3004,3009		RAB4CQ470J
	R 250,251,258,259		RS1/16SS103J
	R 253,254,3013,3019		RS1/16SS470J
	R 269		RS1/16SS333J
	R 270		RS1/16SS473J
	R 271		RS1/16SS223J
	R 272,273,275,3012		RS1/16SS103J
	R 595		RS1/16SS560J
	R 650,703		RS1/10S0R0J
	R 660,661		RS1/16S1001F
	R 678,679,694-696		RAB4CQ330J
	R 698-702,704-707		RS1/16SS330J
	R 3001-3003		RAB4CQ103J
	R 3005-3007		RAB4CQ220J
	R 3014,3024,3054,3059		RS1/16SS103J
	R 3015,3016		RAB4CQ0R0J
	R 3017		RS1/16SS0R0J
	R 3023,3025,3026		RAB4CQ470J
	R 3034-3037,3040-3043		RAB4CQ470J
	R 3046-3053,3125-3127		RS1/16SS330J
	R 3060		RS1/16SS103J
	R 3061-3067,3070-3077		RS1/16SS470J
	R 3078-3081,3090-3093		RS1/16SS101J
	R 3082-3089,3094-3099		RS1/16SS470J
	R 3100-3102		RS1/16SS101J
	R 3106,3107		RS1/16SS470J
	Other Resistors		RS1/16S###J

CAPACITORS

Mark	No.	Description	Part No.
	C 101,107,111,113		CKSRYF105Z10
	C 102,104,106		CKSRYF104Z25
	C 103,105		CKSRYB102K50
	C 108-110,112,114		CKSRYF104Z25
	C 115,144,147,211		CEVW221M4
	C 116,118,120,124		CKSRYF104Z25
	C 117,119,121,126		CKSRYF105Z10
	C 125,127,128,130		CKSRYF104Z25
	C 129,136,137,170		CKSRYF105Z10
	C 131,134,135,138		CKSRYF104Z25
	C 140,142,155,163		CKSRYF104Z25
	C 148,149		CCSRCK2R0C50
	C 171,191,193,194		CKSRYF105Z10
	C 192,209,359,364		CKSRYF104Z25
	C 210,221,307,318		CEVW101M16
	C 212		VCG1057
	C 213,3001-3005		CKSSYF104Z16
	C 222,3006,3007,3016		VCG1058
	C 301,304,309,338		CKSRYB105K10
	C 302,343,385,595		CEVW221M4
	C 303,370		CCSRCH101J50

Mark	No.	Description	Part No.
	C	312,618,620	DCH1201
	C	313-315,320,334	CKSQYB475K6R3
	C	319,329,335,339	CEVW101M16
	C	324,603	CEVW220M6R3
	C	326,401	CCSRCH471J50
	C	332,373,392,393	CKSQYB225K10
	C	340,341,354,388	CKSRYB105K10
	C	342,395	VCH1234
	C	353	CEVW100M16
	C	356,361	CCSRCH220J50
	C	367	CEVW100M50
	C	368,381,382,599	CEVW101M16
	C	372,380,383,398	CKSRYF104Z25
	C	391	CKSRYB103K50
	C	396,400,528	CKSRYB223K50
	C	397,590-592	CCSRCH100D50
	C	399,408,412,415	CKSRYF104Z25
	C	402	CCSRCH120J50
	C	404,431,616	CKSQYB225K10
	C	406,417,418,421	CKSRYF105Z10
	C	409,413,3023	CKSRYB104K16
	C	416,422,423,522	CKSRYF104Z25
	C	433,602	CKSQYB475K6R3
	C	524,593,594,596	CKSRYF104Z25
	C	597	CEVW221M4
	C	598,600,614,615	CKSRYF104Z25
	C	601,3017	CEVW101M16
	C	3008-3013	CKSSYF104Z16
	C	3022	CCG1205

H POWER SUPPLY ASSY

POWER SUPPLY ASSY has no service part.